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70 Mountain Road, Henderson Valley

USEFUL DOCUMENTS FROM PAST OWNERS

- CBA Consultants – Flood Report
- Tree Management Solutions - Arboricultural Report
- Architecture plans
- CBA Consultants - Onsite Wastewater Disposal Report
- Ecological assessment
- Decision on an application for resource consent
- Approved plans



FLOOD REPORT FOR 70 MOUNTAIN ROAD, HENDERSON VALLEY, AUCKLAND 0612

1. BACKGROUND

CBA Consultants Ltd has been commissioned by Patrick Norton to prepare a flood report for proposed development of his property at 70 Mountain Road, Henderson Valley, Auckland 0612. Mr Patrick Norton proposes to develop his property and build a new dwelling. The details of the proposed development are shown by the attached Quantum Construction Plan 214, Sheet A101.

As shown by the Auckland Council Geomaps, there is an overland flowpath passing through the Southern back of the property. The site is located in a rural area of Waitakere Ranges with no access to public stormwater pipe system. The overland flowpath and the proposed private stormwater drainage is shown by the attached design plan CBA1210 Sheet 1. The overland flowpath is addressed by this report. The legal description of the property 70 Mountain Road, Henderson Valley is shown by Table 1.

Table 1: Legal Description and Planning Zone

Project Site	70 Mountain Road, Henderson Valley
Lot and DP numbers	Lot 27 DP 20694 NA860/9
Site Area	1905 m ²
Current Land Use	Bach
Current building cover	50 m ²
Zone	Rural – Waitakere Ranges Zone
Net Area	1905 m ²
Proposed Development Area	
Number of bedrooms	3

The Auckland Unitary Plan Overlays at the site 70 Mountain Road, Henderson Valley are shown as below:

Auckland Unitary Plan Overlays

- *Natural Resources: Significant Ecological Areas Overlay - SEA_T_5539, Terrestrial*



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- *Natural Heritage: Outstanding Natural Landscapes Overlay [rcp/dp] - Area 73, Waitakere Ranges and coastline*
- *Natural Heritage: Waitakere Ranges Heritage Area Overlay - WRHA_03, Subdivision Schedule*
- *Natural Heritage: Waitakere Ranges Heritage Area Overlay - Extent of Overlay*

Controls

Controls: Macroinvertebrate Community Index - Native

2. INVESTIGATION, OVERLAND FLOW AND DEPTH.

The property 70 Mountain Road, Henderson Valley is located within the Opanuku stormwater catchment, sub-catchment of Henderson Creek. Auckland Council undertook the Flood Modelling and Floodplain Mapping of this catchment in 2009. The Auckland Council Geomaps indicates that there is an overland flowpath passing in front of the property. The overland flowpath passing halfway through the property is minor with catchment of 0.13ha. It is composed of half of the property 70 Mountain Road and the some of the property South of the site. The catchment is bush area with one existing bach inside 70 Mountain Road. Based on the zoning of the area, the catchment is likely to remain undeveloped bush area and this has been assumed in the attached calculations.

The TP108 methods and Auckland Council Code of Practice have been used for estimating the flow. The CN numbers 74 and 98 have been assumed for the bush and the impervious areas respectively. The 24hours rainfall from TP108 is 190mm. According to Auckland Council Stormwater Code of Practice, Version 3, 2021, Table 1, the percent change due to climate change is 32.7%, therefore the 24 hours rainfall depth is 253mm. The overland flowpath depth has been calculated using the Rational Formula. The overland flowpath is located totally within the bush area, the Manning coefficient of 0.2 has been assumed. Based on the Geomaps contours, the overland flowpath width has been assumed to be 5m.

Based on our site visit and the Geomaps, the site is located in a rural area of Waitakere Ranges with no access to public stormwater pipe system. The private stormwater from



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the property 70 Mountain Road drains into the road channel passing in front of the property.

Assuming that the entire road reserve will be impermeable, as shown by the attached calculations, the 1 in 100year flow is 0.05m³/s. The estimated overland flow depth is 0.045m.

Table 2: SWCoP Version 3, 2021

Table 1 : Percentage increase in TP108 24-hour design rainfall depth

Annual exceedance probability (AEP)	Percentage Increase in 24-hour design rainfall depth due to future climate change*
50%	27.4%
20%	29.6%
10%	30.8%
5%	31.2%
2%	31.9%
1%	32.7%



3. AUCKLAND UNITARY PLAN ASSESSMENT

The section E36 of the Auckland Unitary Plan defines the objectives, policies and activities relevant to Natural Hazard and Flooding. The following Activity Table E36.4.1 assesses the proposed development.

Table E36.4.1 Activity table

Activities in the 1 percent annual exceedance probability (AEP) floodplain			
(A23)	Fences and walls in the 1 percent annual exceedance probability (AEP) floodplain	P	N/A No fence is proposed as part of the proposal
(A24)	Surface parking and above ground parking areas in the 1 percent annual exceedance probability (AEP) floodplain, that comply with Standard E36.6.1.7	P	N/A
(A25)	Surface parking areas and above ground parking areas in the 1 percent annual exceedance probability (AEP) floodplain, that do not comply with Standard E36.6.1.7	C	N/A
(A26)	Below ground parking or parking areas in the 1 percent annual exceedance probability (AEP) floodplain	RD	N/A
(A27)	Maintenance, repair and construction of private roads and accessways in the 1 percent annual exceedance probability (AEP) floodplain	P	N/A
(A28)	Storage of goods and materials in the 1 percent annual exceedance probability (AEP) floodplain	P	N/A
(A29)	Storage of hazardous substances in the 1 percent annual exceedance probability (AEP) floodplain	RD	N/A
(A30)	On-site septic tanks, on-site wastewater treatment and disposal systems and effluent disposal fields in the 1 percent annual exceedance probability (AEP) floodplain	RD	N/A
(A31)	Operation, maintenance, renewal, repair and minor infrastructure upgrading of land drainage works, stormwater management devices and flood mitigation works in the 1 percent annual exceedance probability (AEP) floodplain	P	N/A



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(A32)	Construction of stormwater management devices or flood mitigation works that are to be vested in the Council or which are identified in a precinct plan incorporated into the Plan or an approved network discharge consent in the 1 percent annual exceedance probability (AEP) floodplain	P	N/A
(A33)	Construction of other land drainage works, stormwater management devices or flood mitigation works in the 1 percent annual exceedance probability (AEP) floodplain	RD	N/A
(A34)	New structures and buildings (and external alterations to existing buildings) with a gross floor area up to 10m ² within the 1 percent annual exceedance probability (AEP) floodplain that comply with standard E36.6.1.9	P	N/A
(A35)	New structures and buildings designed to accommodate flood tolerant activities up to 100m ² gross floor area within the 1 percent annual exceedance probability (AEP) floodplain	P	N/A

(A36)	New structures and buildings (and external alterations to existing buildings) with a gross floor area up to 10m ² within the 1 percent annual exceedance probability (AEP) floodplain that do not comply with standard E36.6.1.9	RD	N/A
(A37)	All other new structures and buildings (and external alterations to existing buildings) within the 1 percent annual exceedance probability (AEP) floodplain	RD	N/A
(A38)	Use of new buildings to accommodate more vulnerable activities, and changes of use to accommodate more vulnerable activities within existing buildings located within the 1 percent annual exceedance probability (AEP) floodplain	RD	N/A
Activities in overland flow paths			
(A39)	Fences and walls located within or over an overland flow path that do not obstruct the overland flow path	P	N/A
(A40)	Flood mitigation works within an overland flow path required to reduce the risk to existing buildings from flooding hazards	P	N/A
(A41)	Diverting the entry or exit point, piping or reducing the capacity of any part of an overland flow path	RD	N/A
(A42)	Any buildings or other structures, including retaining walls (but excluding permitted fences and walls) located within or over an overland flow path	RD	N/A



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Activities on land which may be subject to land instability			
(A43)	Buildings and structures on land which may be subject to land instability that comply with Standard E36.6.1.11	P	N/A
(A44)	On-site septic tanks, onsite wastewater treatment and disposal systems, effluent disposal fields, underground storage tanks, water tanks or stormwater soakage fields and access ways on land which may be subject to land instability that comply with Standard E36.6.1.12	P	N/A
(A45)	On-site septic tanks, wastewater treatment and disposal systems, effluent disposal fields, underground storage tanks, water tanks or stormwater soakage fields, on land which may be subject to land instability that do not comply with Standard E36.6.1.12	RD	N/A
(A46)	Storage of hazardous substances on land which may be subject to land instability	RD	N/A
(A47)	External alteration to any building, on land which may be subject to land instability which does not increase the gross floor area	P	N/A
(A48)	New structures and buildings (excluding dwellings) ancillary to farming activities with a gross floor area up to 100m ² on land which may be subject to land instability Note 1 Structures ancillary to farming activities includes artificial crop protection structures and crop support structures	P	N/A
(A49)	Alterations to existing structures and buildings (excluding dwellings) ancillary to farming activities which do not increase the gross floor area, on land which may be subject to land instability Note 1 Structures ancillary to farming activities includes artificial crop protection structures and crop support structures	P	N/A
(A50)	External additions to buildings and to any structures excluding decks under 1.2m high and 20m ² gross floor area on land which may be subject to land instability	RD	N/A
(A51)	All other buildings and structures, on land which may be subject to land instability not otherwise provided for	RD	N/A

Based on the Activity Table E36.4.1 assessment the proposed development at 70 Mountain Road, Henderson Valley is a Permitted Activity.



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4.0 CONCLUSION & RECOMMENDATION

As indicated above the goal of this project is to assess the impact of overland flowpath on the proposed development at 70 Mountain Road, Henderson Valley.

The estimated 1 in 100 year flow is only $0.05\text{m}^3/\text{s}$ with an overland flowpath depth less than 0.05m

In relation to the Auckland Unitary Plan, Activity Table E36.4.1, related to flooding, the proposed development at 70 Mountain Road, Henderson Valley is a permitted activity.

CBA Consultants Ltd recommend that Auckland Council approve the proposed development at 70 Mountain Road, Henderson Valley.

Prepared by:

Date: 25th January 2022



Scanned with
MOBILE SCANNER

Boubacar S. Coulibaly
ME, MEngSt, CPEng



Arboricultural Report

To: Bruce Sommerville, Project Manager, Quantum Construction Ltd bruce@qcl.nz
From: Andrew Barrell, Director, Tree3 Ltd andybarrell@xtra.co.nz
Date: 22 April 2022
Re: 70 Mountain Road, Henderson Valley– *site development vs protected vegetation*
Arboricultural assessment – supporting information

Introduction

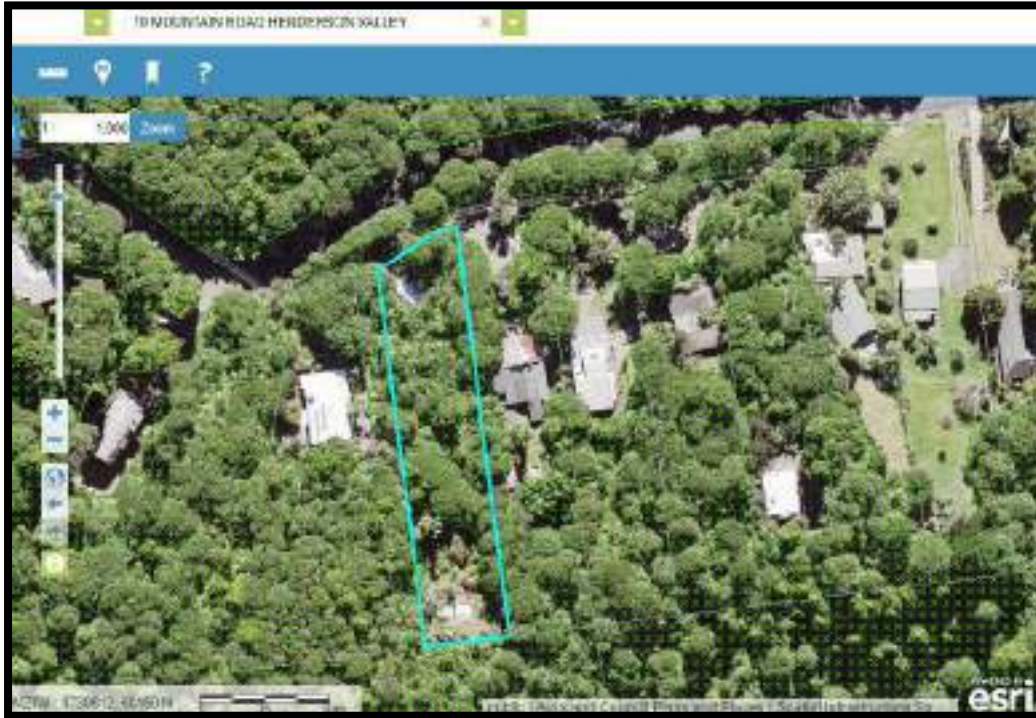
- 1) I have been engaged by the site owner to provide an arboricultural assessment of works that will implicate protected vegetation at 70 Mountain Road, Henderson Valley (“the site”).
- 2) The site is being developed and this will entail removal of protected vegetation and works in the root zone of protected vegetation. The agreed scope of works is as follows:
 - a. *Provide an assessment of the existing protected vegetation on or adjacent to the site that may be affected by the proposed development or that will need to be removed or trimmed;*
 - b. *Provide an assessment of effects regarding loss of protected vegetation and any works in the drip line/root zone of protected vegetation;*
 - c. *Provide recommendations to apply to any works in the vicinity of protected vegetation, to include guidance on suitable construction procedures within root zone areas and specifications for any pruning or removal that may be required; and*
 - d. *Provide guidance for any tree protection measures, mitigation or remedial works that may be required during and post-works.*
- 3) I visited the site on 7 March 2022 to assess the proposed works. I had unrestricted access to the site, weather conditions were fine and all assessment work was carried out by cursory visual inspection from ground level.
- 4) I have arboricultural experience and qualifications, the details of which are summarised on my website at the following address: <http://tree3.co.nz/about-us/andy-barrel-cv/>. I have based this report on my site observations and the supplied information, and the recommendations have been made in light of my observations and experience.

Background information

Proposal

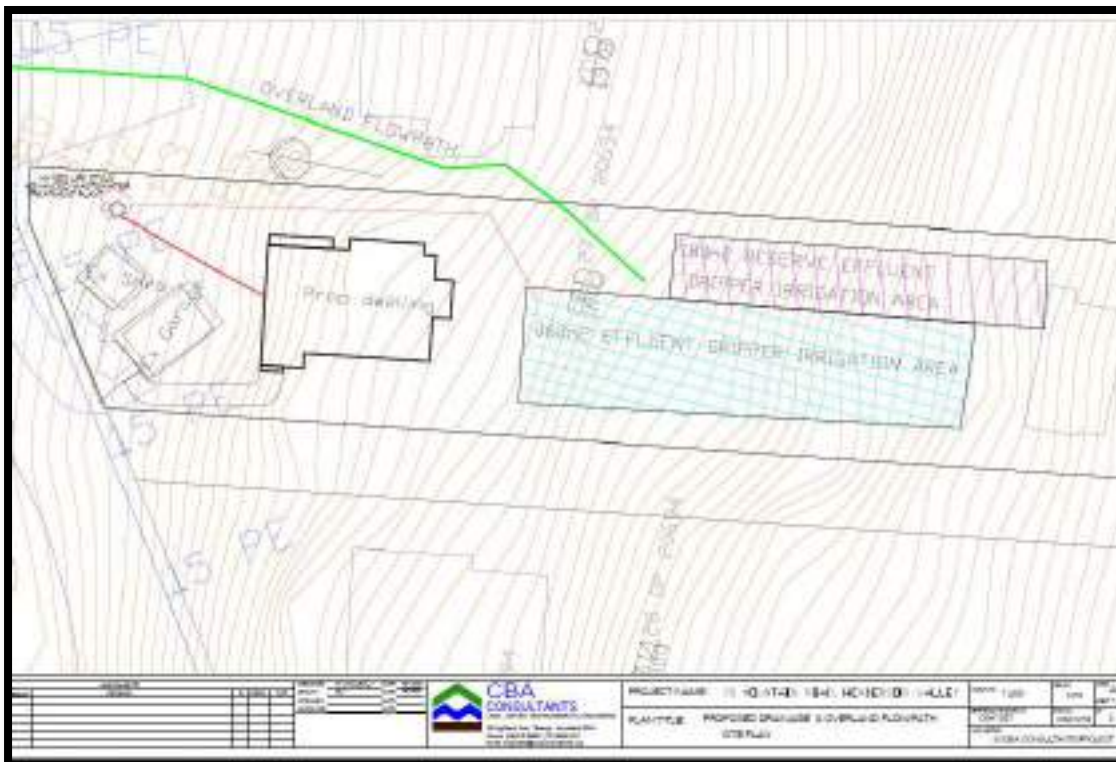
- 5) The area implicated by the proposed development is partially covered by a *Significant Ecological Area (SEA)* overlay – see Figure 1 below. This relates to Chapter E15 in the AC Unitary Plan (AUP). The green hatching represents the SEA overlay. It is referenced as SEA_T 5539 in the AUP.

Figure 1 – Screenshot from AC GIS viewer showing extent of SEA overlay at 70 Mountain Road.



- 6) The overall proposed development and drainage footprint is shown in Figure 2a below.

Figure 2a – Overall development and drainage footprint.



Assessment

Note: all assessment conclusions are based on the assumption that the works will be carried out in accordance with the recommendations at the end of this report.

- 11) As mentioned above the majority of the vegetation that is to be cleared consists of native bush with a very small amount of exotic weed species present. Whilst the removal of a segment of native bush is less than ideal, the amount being removed represents a relatively small percentage of the overall site area. The site covers 1905m² in total and it is proposed to remove approximately 221m² which represents just under 12% of the total area of bush on the site.
- 12) Direct mitigation for the loss of this vegetation will be very difficult, if not impossible, due to the spatial constraints of the site and dense vegetative coverage of areas beyond the development footprint. Areas available for replanting will be small and very likely to regenerate with native species anyway. As such it is considered that replanting would conceivably do more harm than good and allowing natural regeneration to occur, albeit with some assistance by way of weed control, would result in the ideal species (as dictated by the natural order of things) becoming established in any cleared areas. This natural regeneration would be, as mentioned above, assisted by weed control to prevent any weed infestations occurring post-works. Cleared edge areas are particularly vulnerable to exotic weed infestation therefore weed control would focus on the edges but also include removal of any other exotic weeds within the section.
- 13) Whilst it seems counter-productive to avoid replanting *per se*, given the observed vigour of regeneration within the bush area it is anticipated that native plants will rapidly colonise any exposed areas (combined with weed control) and eventually result in a dynamic and balanced native species mix that would essentially be self-sustaining and entirely appropriate for this specific environment (as opposed to introduced plants that may have nursery diseases or be genetically diverse from the localised plant material).
- 14) It is unlikely that any canopy trimming will be required around the edge of the cleared area primarily because the relatively dense nature of the bush means that most plants will be upright with little lateral canopy spread. Branches could be tied back temporarily during works as a first option and if any trimming does become necessary it is anticipated it will be able to comply with the *permitted activity* standard in Chapter E15 as shown below:

E15.6.9 Tree trimming within Significant Ecological Areas

- (1) The maximum branch diameter must not exceed 50mm.*
- (2) No more than 10 per cent of live growth of the tree is removed in any one calendar year.*
- (3) Trimming must meet accepted modern arboricultural practice.*
- (4) The trimming must retain the natural shape, form and branch habit of the tree.*

- 15) Standard site management procedures (including use of protective fencing) will ensure no uncontrolled construction-related activities encroach into any permeable root zone areas beyond the vegetation clearance area, thus ensuring any collateral damage or contamination is avoided within areas of retained bush.
- 16) Effluent disposal pipes will be placed on existing ground level in the bush area to the south of the proposed dwelling and will not entail any impacts on native vegetation over and above insignificant localised compaction from the temporary foot traffic required to install the pipes on-grade.
- 17) The relevant assessment criteria for *controlled* activities from section E15.7.2 are addressed below.

(1) vegetation alteration or removal within a significant ecological area for a building platform and access way for one dwelling per site:

- (a) whether there are practicable alternative locations for the development on the site outside of the vegetated area or significant ecological area;*

Comments: The proposed development sits at the front of the site therefore any alternative location would by default need to be further into the site which means that access would be required to wherever the alternative location was. This would result in the same amount of vegetation removal for the building footprint along with significant additional clearance to enable access to the alternative location. As such any location other than that proposed will inevitably result in the loss of significantly greater amounts of vegetation. Furthermore, cursory inspection of the aerial image in Figure 1 shows that adjacent sites all have dwellings located in approximately the same location within each site so there is a pattern in the immediate surroundings that reflects the minimisation of vegetation disruption by locating the dwelling at the front of the site.

(b) whether vegetation clearance can be carried out in a way that avoids high quality vegetation, particularly if it has conservation significance, and clears lower quality vegetation.

Comments: As mentioned above, the spatial constraints of the site significantly limit options for the location of a new dwelling. Whilst there are good-quality trees within the proposed clearance area some of this area is located at the edge of the bush and as such the quality of the bush may be partially degraded by edge effects although this degradation will be of a very minor nature. In short there are no realistic options to avoid high quality vegetation within the proposed development footprint apart from clearing other areas which then introduces the increased clearance scenario to provide access to an alternative location as well as removing high quality vegetation from whatever other area is chosen.

- 18) It is simply not possible to develop this site with no adverse effects on vegetation as the whole site is thickly clad with bush and there is an expectation that a new dwelling can be constructed somewhere on the site. The location of the proposed new dwelling is consistent with similar activities on adjacent sites and to locate it elsewhere within the site will incur significantly greater impacts on vegetation due to the requirement to clear an access route to any other location. New planting opportunities within the site are limited due to the densely vegetated nature of the site and are therefore not recommended. The preferred (and more effective) revegetation option is the reliance on natural regeneration which will effectively provide the right plants in the right place. This will be supplemented by weed control that will support the eventual transition to a sustainable and species-appropriate indigenous plant population on this site.

Recommendations

- 19) Prior to commencement of clearance works for the development footprint at 70 Mountain Road a meeting shall be arranged by the consent holder between the consent holder's arborist ("works arborist", a suitably competent and professional arborist, engaged by the consent holder, who can effectively manage site works around protected trees) and the site/project manager.
- 20) The aim of this meeting will be to explain the tree protection matters to the project manager and/or work site supervisory staff who are carrying out any works associated with the project within the vicinity of protected vegetation within the subject site. Items to be discussed at this meeting will include:
- Confirmation of the clearance footprint within the site and confirmation of the clearance methodology, being mindful that retained vegetation is to remain undamaged by clearance works;*
 - the general methodology for undertaking any works within or adjacent to the development footprint including confirmation of any construction methodologies within or close to adjacent vegetation and any service installation works to the north of the development footprint;*
 - location and type of tree and root protection measures within the site where applicable;*
 - the restrictions on machinery and vehicle access, operations and manoeuvring within or close to root zone areas; and*
 - restrictions on areas available for storing materials, equipment, and spoil.*
- 21) Vegetation removal works shall be carried out in a manner that avoids damage to vegetation being retained. The preferred option to manage any overhanging limbs will be to tie them back temporarily to provide the required level of clearance during works. In the event that any canopy pruning is required it will be carried out under the guidance of the works arborist and involve removal of the minimum amount of material to provide reasonable clearance above and beyond the dwelling footprint. Any such canopy trimming will be in general accordance with standard E15.6.9 (as referenced above) and will only be carried out as a last option if it is not possible to temporarily tie back limbs for clearance purposes. As a minimum the clearance footprint will be as per the plan shown in Figure 2b with an additional buffer of 1.5-2m around the outer edge.
- 22) Protective fencing should be erected around the development footprint once vegetation clearance and pruning has been completed and prior to commencement of any site works to ensure no construction-related activities encroach into adjacent root zone areas of retained vegetation. This fencing should be fit for purpose and remain in place for the duration of any activities that could adversely affect protected retained vegetation on the site.
- 23) Any excavations or other ground disturbance works within the site that are located within the root zone areas of any retained vegetation will be subject to appropriate levels of arboricultural supervision by the works arborist. This supervision will be based on the following standard procedures:
- Initial excavation along the edge of the development footprint will be subject to supervision by the works arborist and is to be done using hand tools and careful use of hand-operated machinery where appropriate i.e. where roots of adjacent trees may be affected. The aim of this precautionary approach is to identify any significant roots (diameter more than 25mm) that encroach into the works footprint and trim them accordingly if it is not possible to retain them.*
 - Any roots in excess of 25mm diameter that are encountered will be retained wherever possible and protected by a layer of geotextile fabric or black polythene to prevent desiccation until covered with suitable backfill.*
 - The severance of any root more than 25mm shall be done at the discretion of the works arborist. Any roots which are to be cut shall be cut back cleanly to at least 50mm beyond the excavation face leaving a clean cut as opposed to fragmented or broken root ends, and the area around the root shall be either backfilled with the original material (or suitable base course material) or covered with geotextile fabric or black polythene to prevent desiccation.*

- 24) It has been assumed that all works will occur from within development footprint. If for any reason machinery access or other construction-related activities need to occur within vulnerable root zone areas there shall be a requirement to install suitable temporary ground protection measures, to the satisfaction of the works arborist, prior to such movements or activities occurring. Ground protection will consist of a layer of woodchip mulch at least 100mm deep on Geotech fabric, layers of carpet, trakmats or any other suitable medium that will ensure underlying roots are not adversely affected.
- 25) Construction-related materials and machinery will be stored away from any permeable root zone area of any retained vegetation and will remain within the development footprint or on areas with suitable ground protection. Any machinery movements in the vicinity of any retained vegetation may require deployment of a spotter to ensure no impact damage occurs to branches or stems. No machinery movements are expected to occur outside of the development footprint.
- 26) Installation of effluent disposal infrastructure will entail no root zone disruption, ground modification or any other root-damaging activity. Dripper pipes will be pegged onto the ground with minimal disruption to vegetation and it is anticipated no vegetation will be removed to accommodate this work.
- 27) Weed control should occur within at least 5m of the development footprint within the subject site confines. This will entail manual removal of exotic weed species and appropriate disposal of any arisings, ideally off site or onto a secure composting location. Weed control is to occur annually for at least three years post-construction whereupon it is anticipated that native regeneration will effectively suppress any new weed activity to the extent that further weed control is not required.
- 28) I recommend provision of a project completion memo (PCM) to the AC Resource Consent Monitoring Officer detailing compliance with the relevant tree protection requirements and confirmation that any adverse effects suffered by any retained trees as a result of the works will be insignificant. The default setting is that all information will be provided in the final PCM unless otherwise specified or required.

Please feel free to contact me if you require further clarification of any of the above points.

Andrew Barrell

Consultant Arborist. Director, Tree3 Ltd

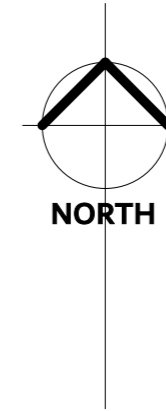
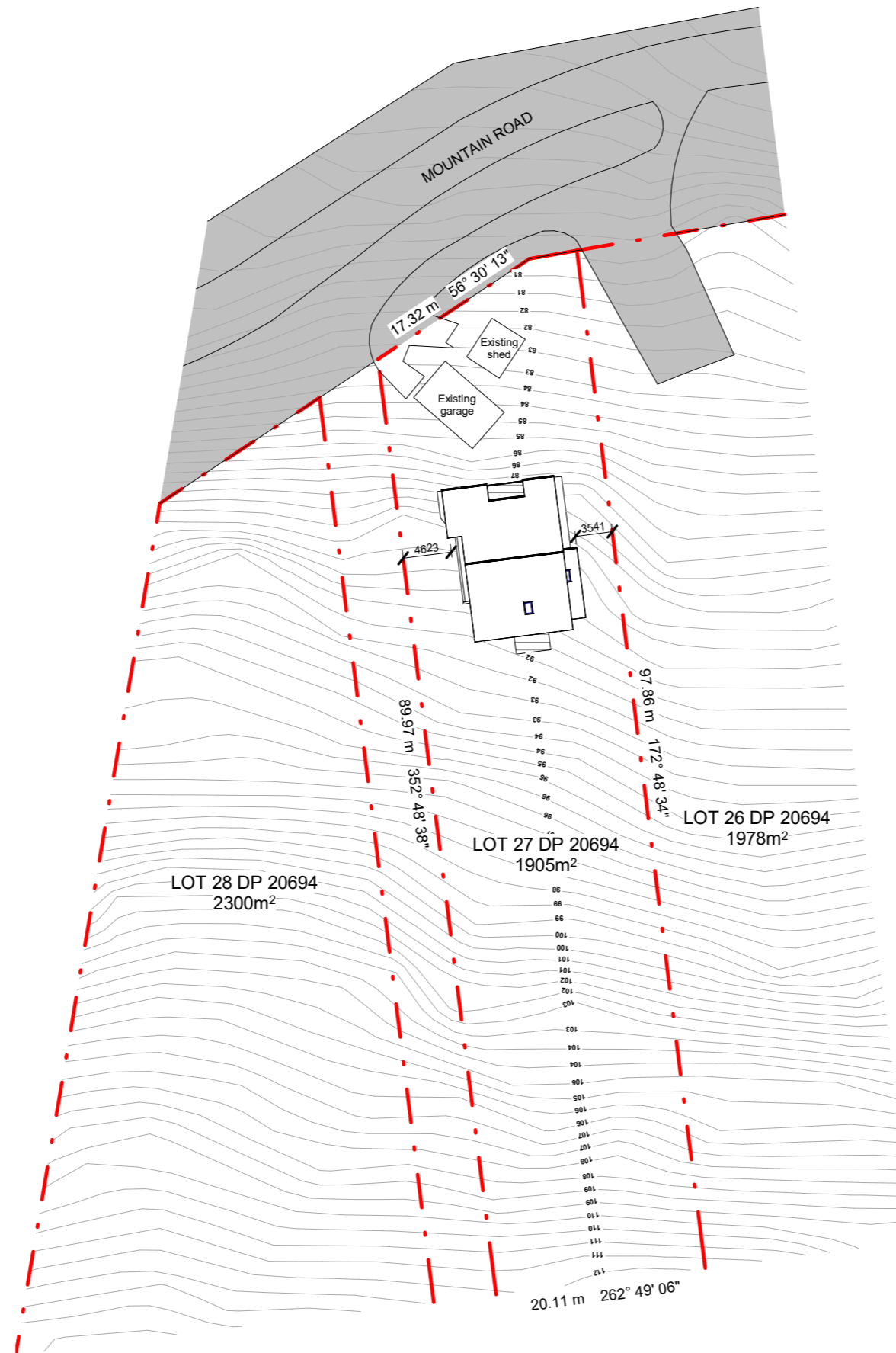


22 April 2022



Resource Consent	
Sheet Name	Sheet Number

Site Plan	A100
Silt Control and Rolling Height	A100A
Site Drainage Plan	A100B
Proposed Floor Plans	A101
Foundation Plan	A105
Proposed Roof Plan	A106
Proposed East & West Elevations	B100
Proposed North & South Elevations	B101
Proposed Sections	B102



SITE INFORMATION

Address: 70 Mountain Road Henderson Valley

Legal Description: LOT27 DP20694

Record of Title Number: NA860/9

Property Area: 1905m²

Area Unit: M

Climate Zone: 1

Wind Zone: High

Wind Region: A

Earthquake Zone: Zone 1

Exposure Zone: Zone C

Rainfall Range: 90 - 100
Use figured dimensions do not scale off drawings

Confirm all dimensions on site

All proprietary building products materials fixtures and fittings are to be used strictly in accordance with manufacturer's specifications

Underground services shown on the plan are not accurately located, confirm location of all underground services prior to any excavation work commencing



Box 95196 Swanson, Auckland 0653
Phone (09) 3603323
www.quantumconstruction.co.nz
e-mail: anna@qcl.nz

70 Mountain Road

Site Plan

Issue 214

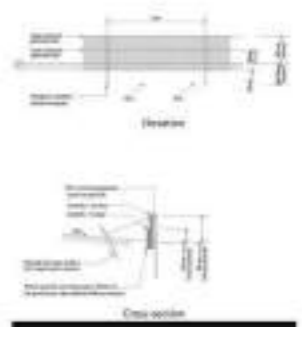
Drawn by Author

Date Printed 06/04/2022

Revision No. Checker

A100

Scale As indicated



INSTALLATION

1. The Super Silt Fence must be installed on a firm, level surface.
2. The Super Silt Fence must be installed on a firm, level surface.
3. The Super Silt Fence must be installed on a firm, level surface.
4. The Super Silt Fence must be installed on a firm, level surface.
5. The Super Silt Fence must be installed on a firm, level surface.
6. The Super Silt Fence must be installed on a firm, level surface.
7. The Super Silt Fence must be installed on a firm, level surface.
8. The Super Silt Fence must be installed on a firm, level surface.
9. The Super Silt Fence must be installed on a firm, level surface.
10. The Super Silt Fence must be installed on a firm, level surface.

Specifications

Material	100% Virgin Polypropylene
Weight	1.5kg/m ²
Width	3.0m
Length	100m

Notes

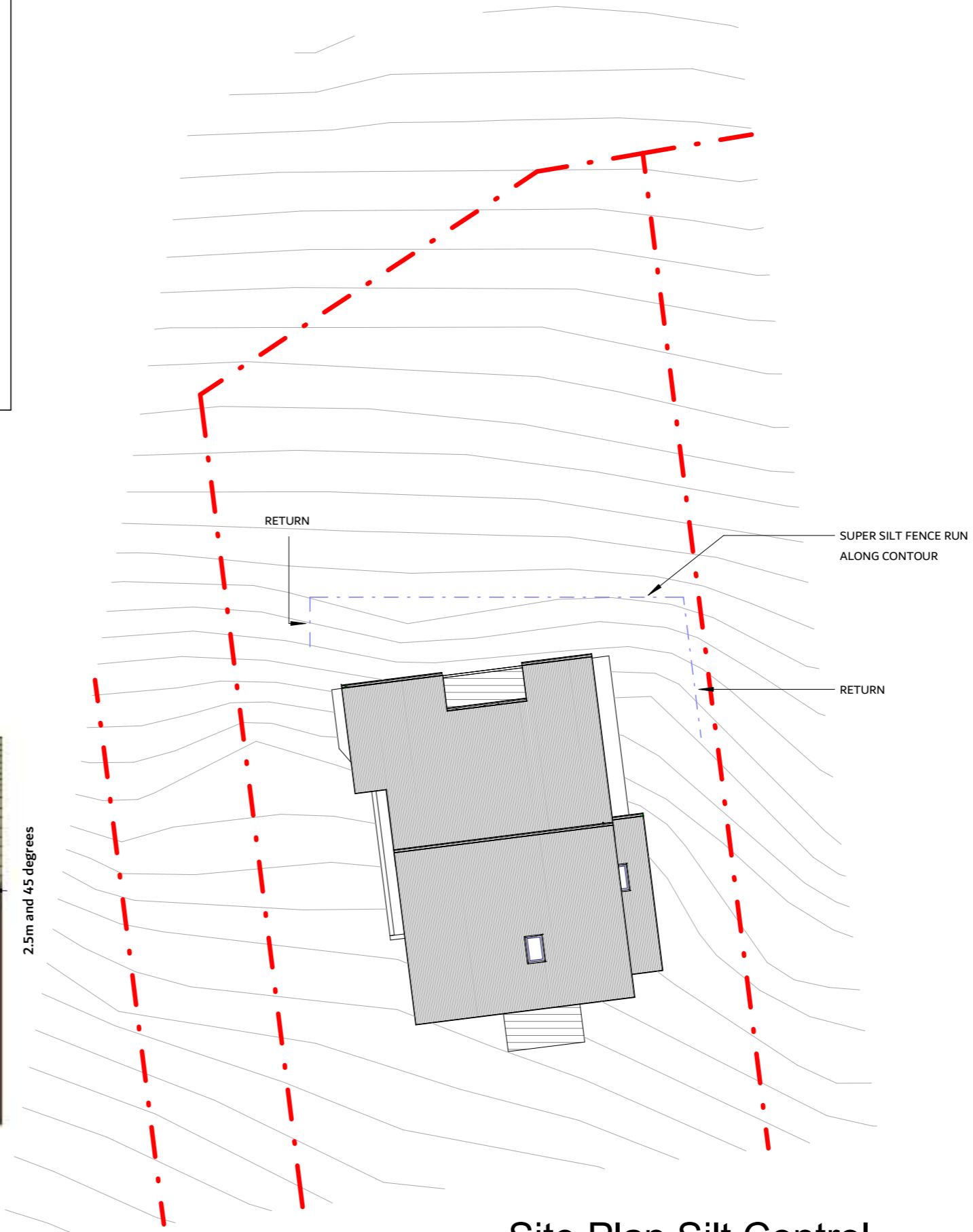
1. The Super Silt Fence must be installed on a firm, level surface.
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9. The Super Silt Fence must be installed on a firm, level surface.
10. The Super Silt Fence must be installed on a firm, level surface.

Super Silt Fence Notes



2 **Recession Planes**

2.5m and 45 degrees



1 **Site Plan Silt Control**
1 : 200

Use figured dimensions do not scale off drawings

Confirm all dimensions on site

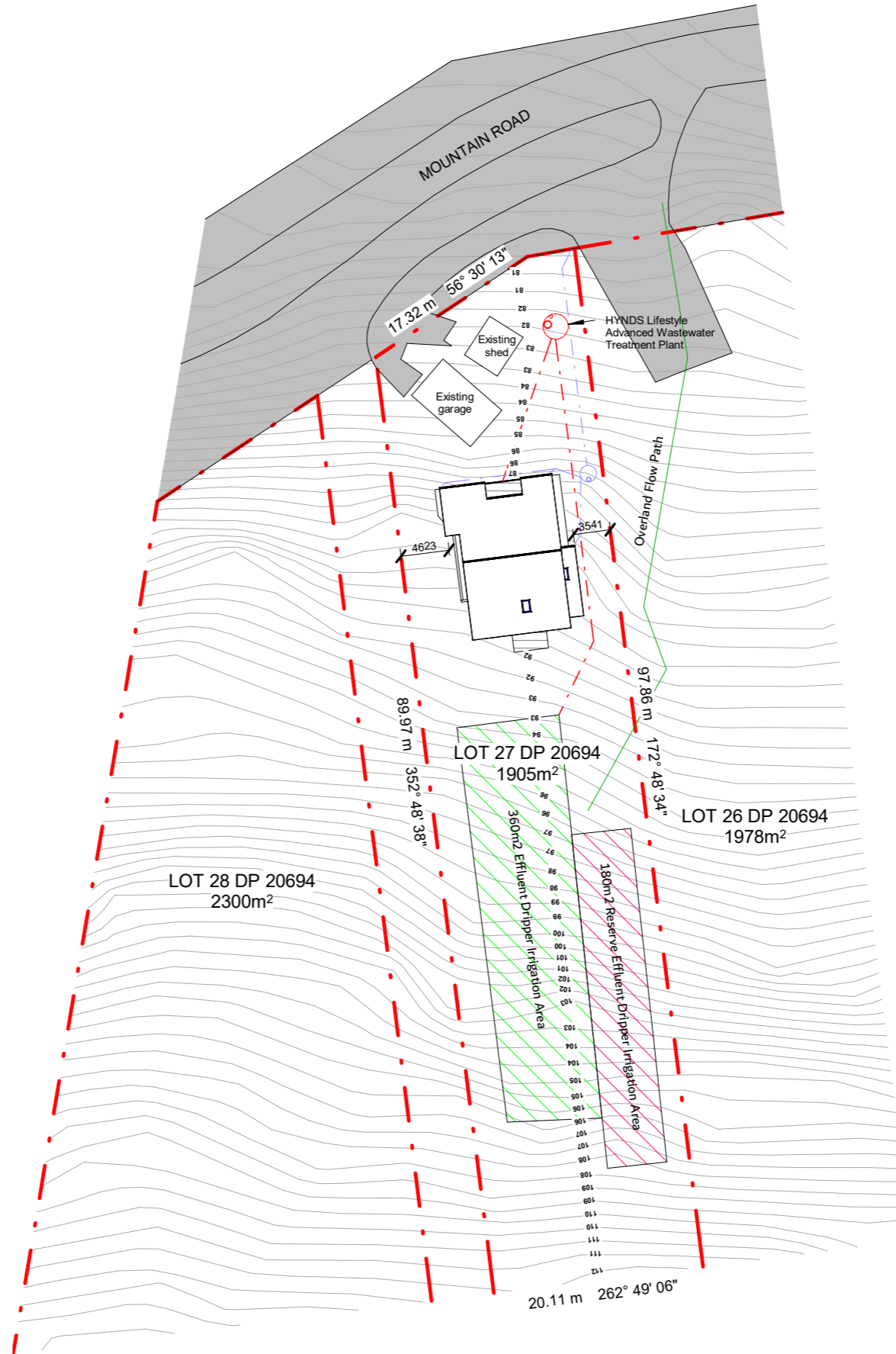
All proprietary building products materials fixtures and fittings are to be used strictly in accordance with manufacturer's specifications

Underground services shown on the plan are not accurately located, confirm location of all underground services prior to any excavation work commencing



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e-mail: anna@qcl.nz

70 Mountain Road	
Silt Control and Rolling Height	
Issue	214
Drawn by	Author
Date Printed	06/04/2022
Revision No.	Checker
A100A	
Scale	1 : 200



Use figured dimensions do not scale off drawings

Confirm all dimensions on site

All proprietary building products materials fixtures and fittings are to be used strictly in accordance with manufacturer's specifications

Underground services shown on the plan are not accurately located, confirm location of all underground services prior to any excavation work commencing

QUANTUM CONSTRUCTION

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70 Mountain Road	
Site Drainage Plan	
Issue	214
Drawn by	Author
Date Printed	06/04/2022
Revision No.	Checker
A100B	
Scale	1 : 500

Site Plan Drainage
 SCALE @ A3 - 1 : 500 | SCALE @ A1 - HALVE A3 SCALE

H1 COMPLIANCE

This building complies with H1 by means of BRANZ Building Schedule Method

Minimum Requirements:

Roof: R1.9
Walls: R1.2
Floor: R1.3
Glazing: 0.26

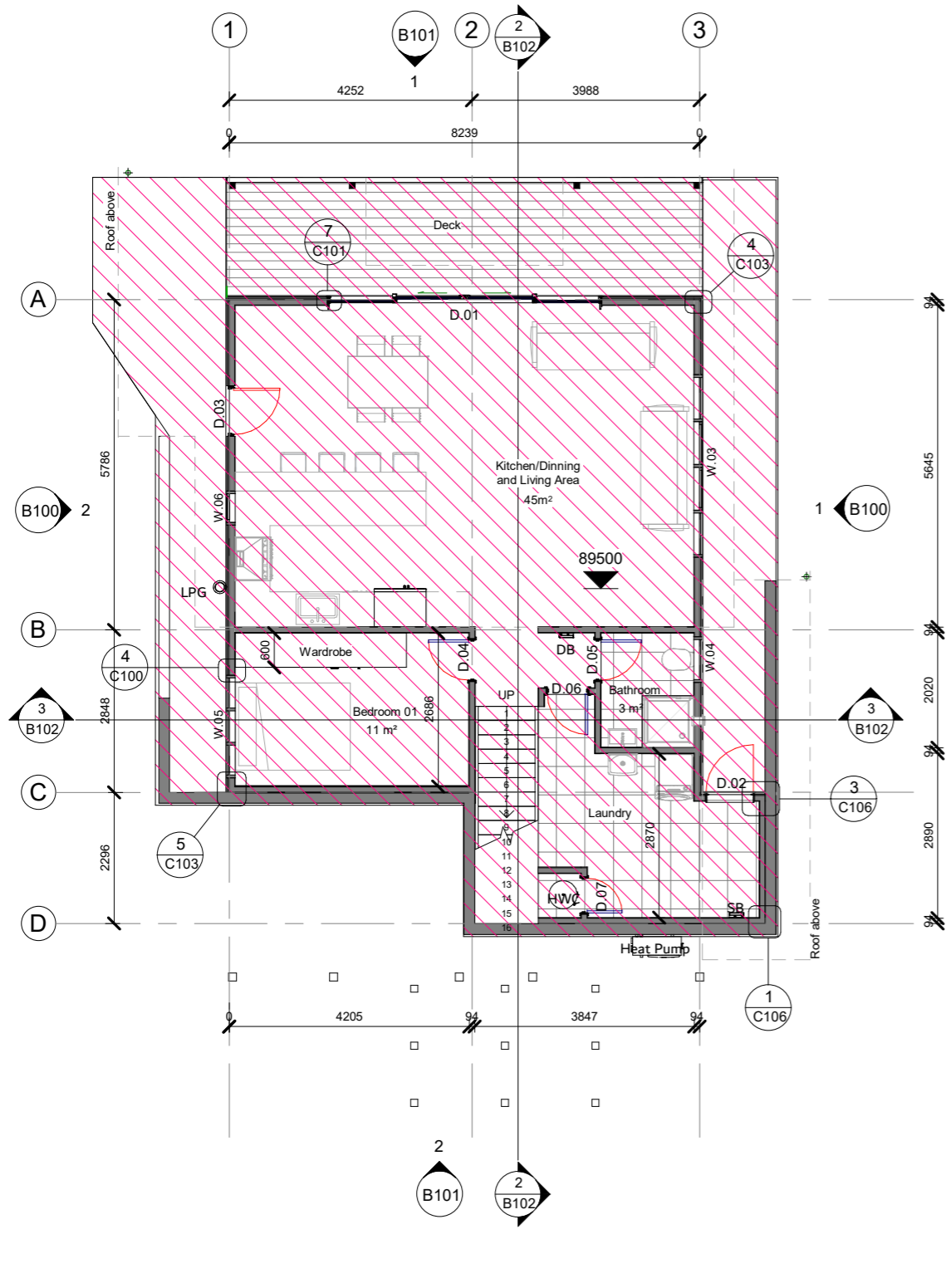
Achieved Values:

Roof: R3.2 Pink Batts
Walls: R2.4 Pink Batts
Floor: R1.3 Concrete Slab
Glazing: 0.26 Double Glazing

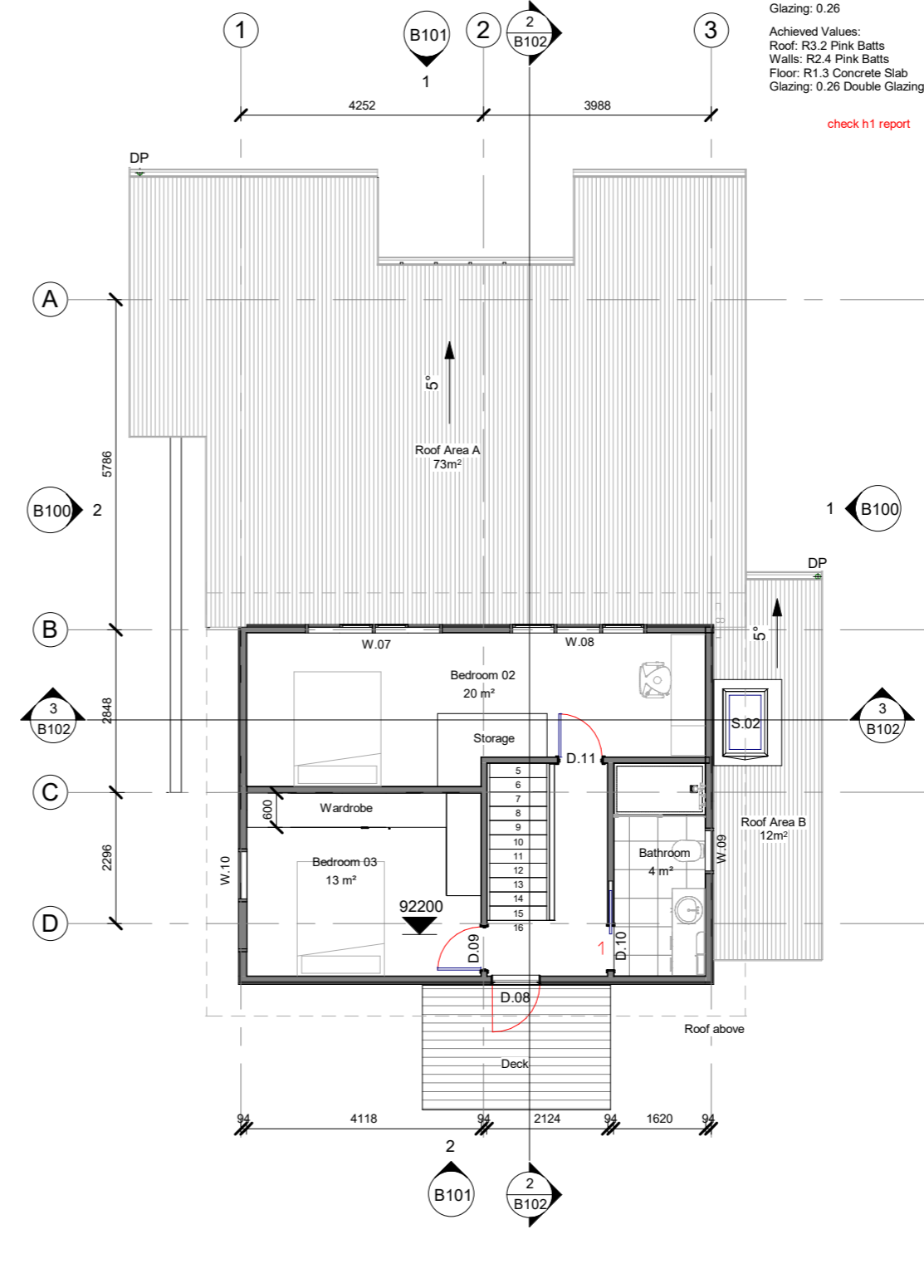
check h1 report

CONSTRUCTION NOTES

- Contractor shall verify all details and dimension on site before commencement of work
- Wall dimensions generally from face of wall framing unless noted
- Timber framing is to be SG8 H3.2 treated, unless noted otherwise
- All work is to comply with NZS 3604:2011, NZBC and other applicable standards and codes
- Provide selected DPC between all timber and concrete
- All fixings generally stainless steel, unless noted otherwise
- All other fixings in closed environments and in roof spaces to be hot dipped galvanized steel
- All flashings are to be mechanically fixed
- Tolerance to rough openings for doors & windows to be +10mm
- Wet area floor & walls that are to be tiled, are to be protected with Ardex WPM 002 Superflex liquid waterproofing membrane & installed by an approved installer



1 Ground Level
SCALE @ A3 - 1 : 100 | SCALE @ A1 - HALVE A3 SCALE



2 First Level
SCALE @ A3 - 1 : 100 | SCALE @ A1 - HALVE A3 SCALE

Use figured dimensions do not scale off drawings

Confirm all dimensions on site

All proprietary building products materials fixtures and fittings are to be used strictly in accordance with manufacturer's specifications

Underground services shown on the plan are not accurately located, confirm location of all underground services prior to any excavation work commencing

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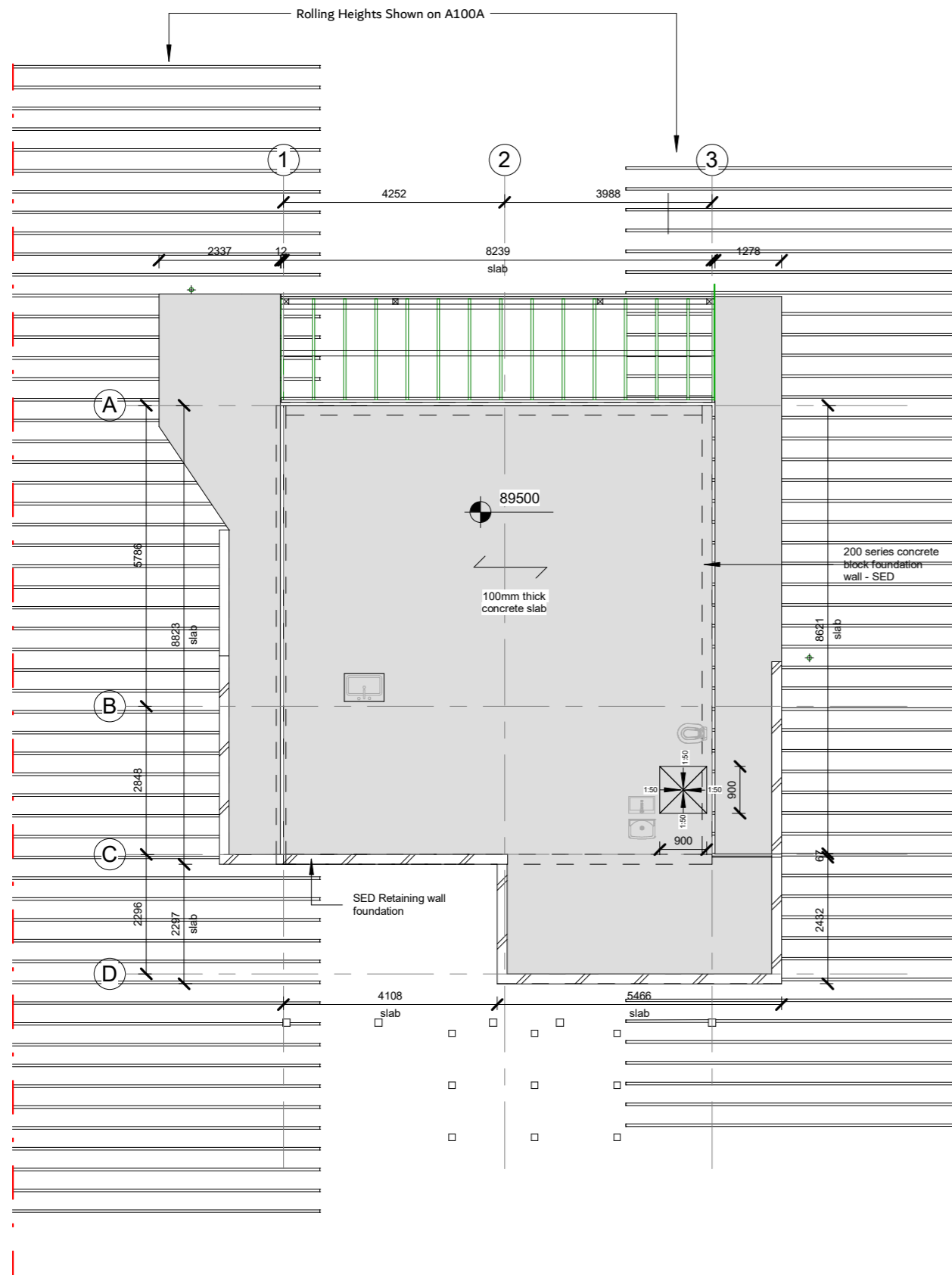
70 Mountain Road

Proposed Floor Plans

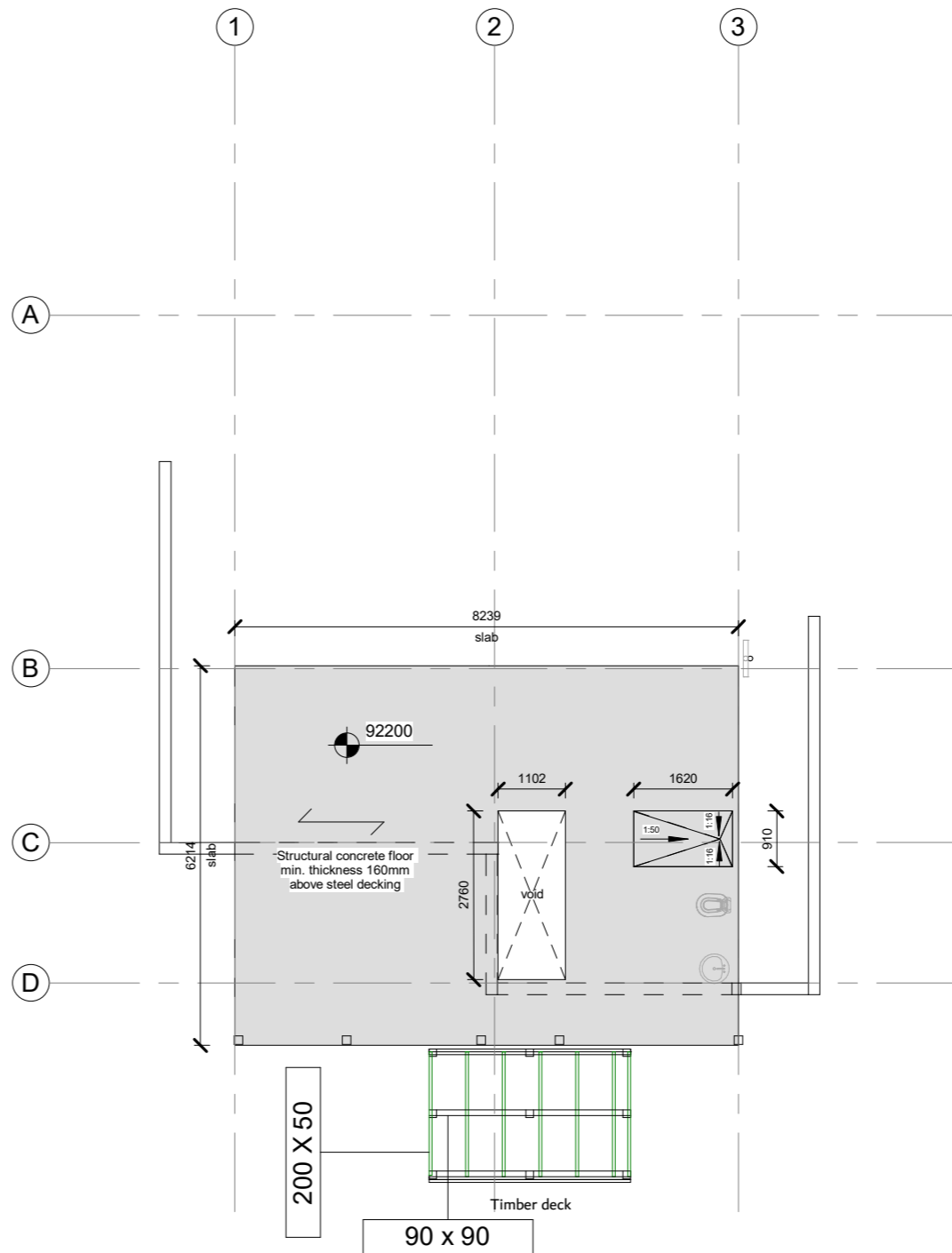
Issue	214
Drawn by	Author
Date Printed	06/04/2022
Revision No.	Checker

A101

Scale As indicated



1 Foundation Plan & Deck Framing - Ground Level
 B100 SCALE @ A3 - 1 : 100 | SCALE @ A1 - HALVE A3 SCALE



2 Foundation Plan & Deck Framing - First Level
 B100 SCALE @ A3 - 1 : 100 | SCALE @ A1 - HALVE A3 SCALE

- FLOOR FRAMING LEGEND**
- Floor framing plans to be read in conjunction with Structural Engineers documentation
- Poles (generally)**
- Size
 - Treatment
 - Grade
- Piles (Ordinary)**
- Size
 - Treatment
 - Grade
 - Min depth
- Bearers**
- Size
 - Treatment
 - Grade
- Deck Joists**
- Size 200x50 (shown in green)
 - Treatment H3.2
 - Grade SG8
- Decking**
- Thickness 20mm
 - Grade Hardwood
 - Treatment Nil

Use figured dimensions do not scale off drawings

Confirm all dimensions on site

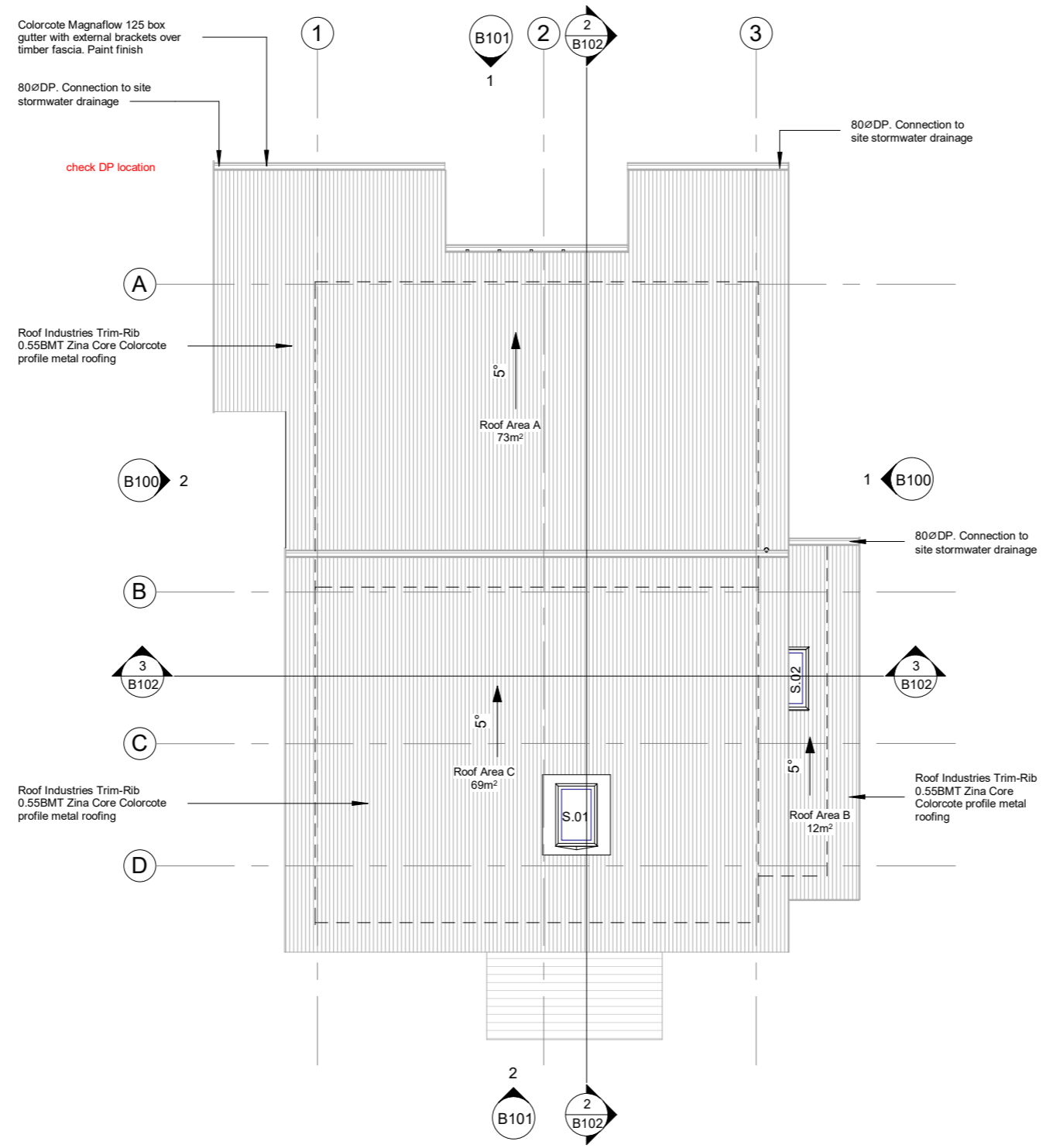
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70 Mountain Road	
Foundation Plan	
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Revision No.	Checker
A105	
Scale	As indicated



ROOF FRAMING NOTES

Roof framing plans are to be read in conjunction with all other details and framing plans
 Solid block between roof rafters
 Roof plane bracing not required due to wall framing extending to U/S of rafters and ceiling lining is attached directly to U/S of rafters

ROOF FRAMING LEGEND

Framing to comply with NZS3604
 Rafters & spacing
 - 140x45mm H1.2 SG8 @ 400mm centres
 Purlin size & spacing
 - 69x45mm H1.2 SG8 @ 900mm centres max
 Purlin fixing
 - Purlin on flat fixed to each rafter with 1x10g self-drilling scrw, 80mm long
 Soffit thickness & finish
 - 6mm Villaboard, flush stopped with control joints @ 7.2m centres max
 Soffit framing & fixing
 - 69x45mm H1.2 blocking as required between rafters
 - 40x2.8mm 316 stainless steel HardieFlex nails @ 200mm centres down edge of sheets.

H1 COMPLIANCE

This building complies with H1 by means of BRANZ Building Schedule Method
 Minimum Requirements:
 Roof: R1.9
 Walls: R1.2
 Floor: R1.3
 Glazing: 0.26
 Achieved Values:
 Roof: R3.2 Pink Batts
 Walls: R2.4 Pink Batts
 Floor: R1.3 Concrete Slab
 Glazing: 0.26 Double Glazing

SURFACE WATER CALCULATIONS

ROOF AREA A
 Area: 73m²
 DP: 2x80diam (pvc)
 Roof Area Permitted for DP size: 155m²
 Gutter: Box Gutter 125
 Effective Cross Sectional Area: 7800m²
 Cross Sectional Area Permitted for Gutter Size: 8000m²

ROOF AREA B
 Area: 12m²
 DP: 80diam (pvc)
 Roof Area Permitted for DP size: 155m²
 Gutter: Box Gutter 125
 Effective Cross Sectional Area:
 Cross Sectional Area Permitted for Gutter Size: 8000m²

ROOF AREA C
 Area: 69m²
 DP: 80diam (pvc)
 Roof Area Permitted for DP size: 155m²
 Gutter: Box Gutter 125
 Effective Cross Sectional Area: 7000m²
 Cross Sectional Area Permitted for Gutter Size: 8000m²

Use figured dimensions do not scale off drawings

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70 Mountain Road

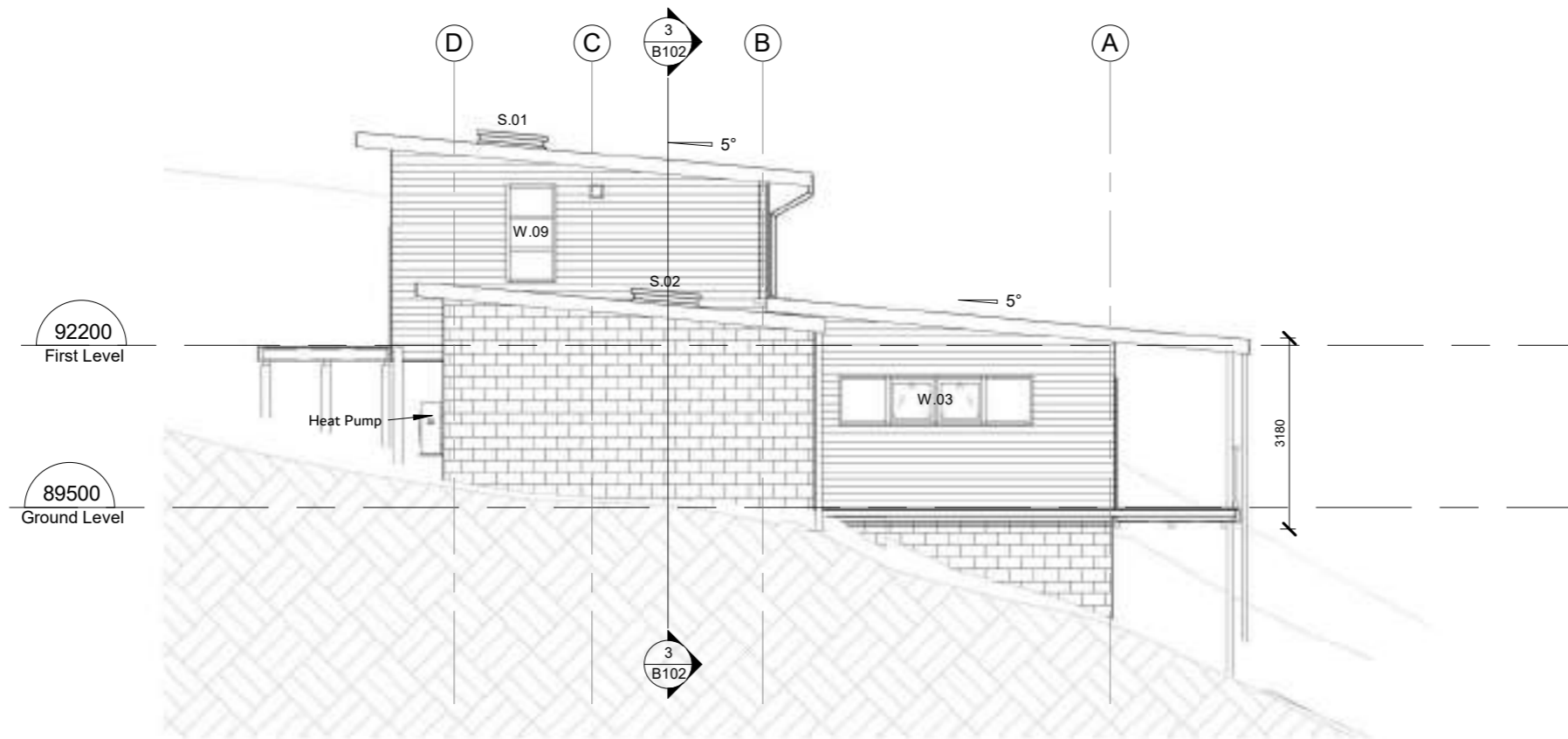
Proposed Roof Plan

Issue	214
Drawn by	Author
Date Printed	06/04/2022
Revision No.	Checker

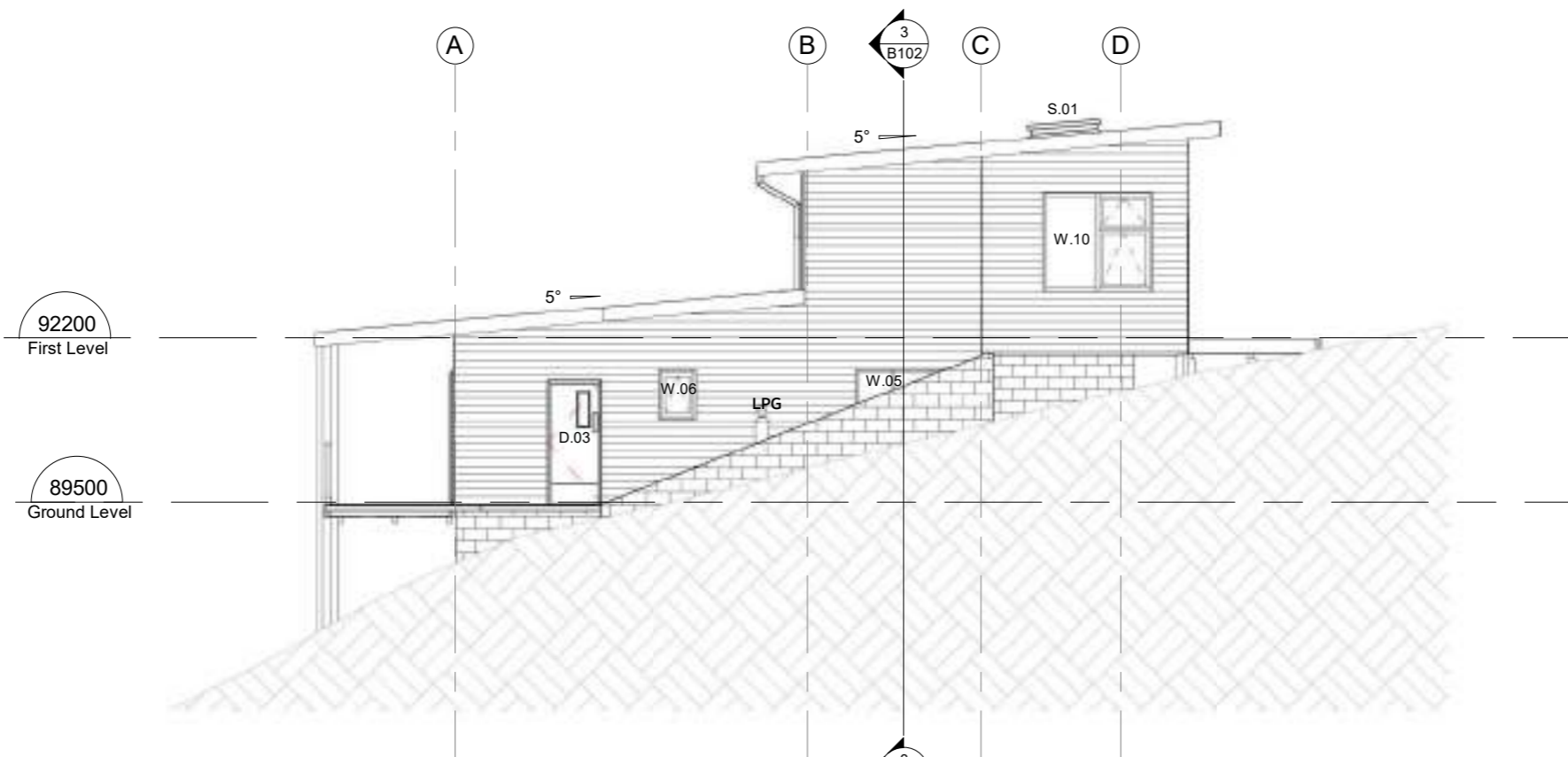
A106

Scale As indicated

1 Roof
 C102 SCALE @ A3 - 1 : 100 | SCALE @ A1 - HALVE A3 SCALE



1 **East Elevation**
 A101 SCALE @ A3 - 1 : 100 | SCALE @ A1 - HALVE A3 SCALE



2 **West Elevation**
 A101 SCALE @ A3 - 1 : 100 | SCALE @ A1 - HALVE A3 SCALE

BUILDING ENVELOPE RISK SCORES

Risk Factor	Risk Severity	Risk Score
A. Wind Zone	High	1
B. Number of Storeys	High	2
C. Roof/Wall Intersection Design	Low	0
D. Eaves Width	Medium	1
E. Envelope Complexity	Low	0
F. Deck Design	Medium	2
Total Risk Score		6

Use figured dimensions do not scale off drawings

Confirm all dimensions on site

All proprietary building products materials fixtures and fittings are to be used strictly in accordance with manufacturer's specifications

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70 Mountain Road

Proposed East & West Elevations

Issue 214

Drawn by bruce

Date Printed 06/04/2022

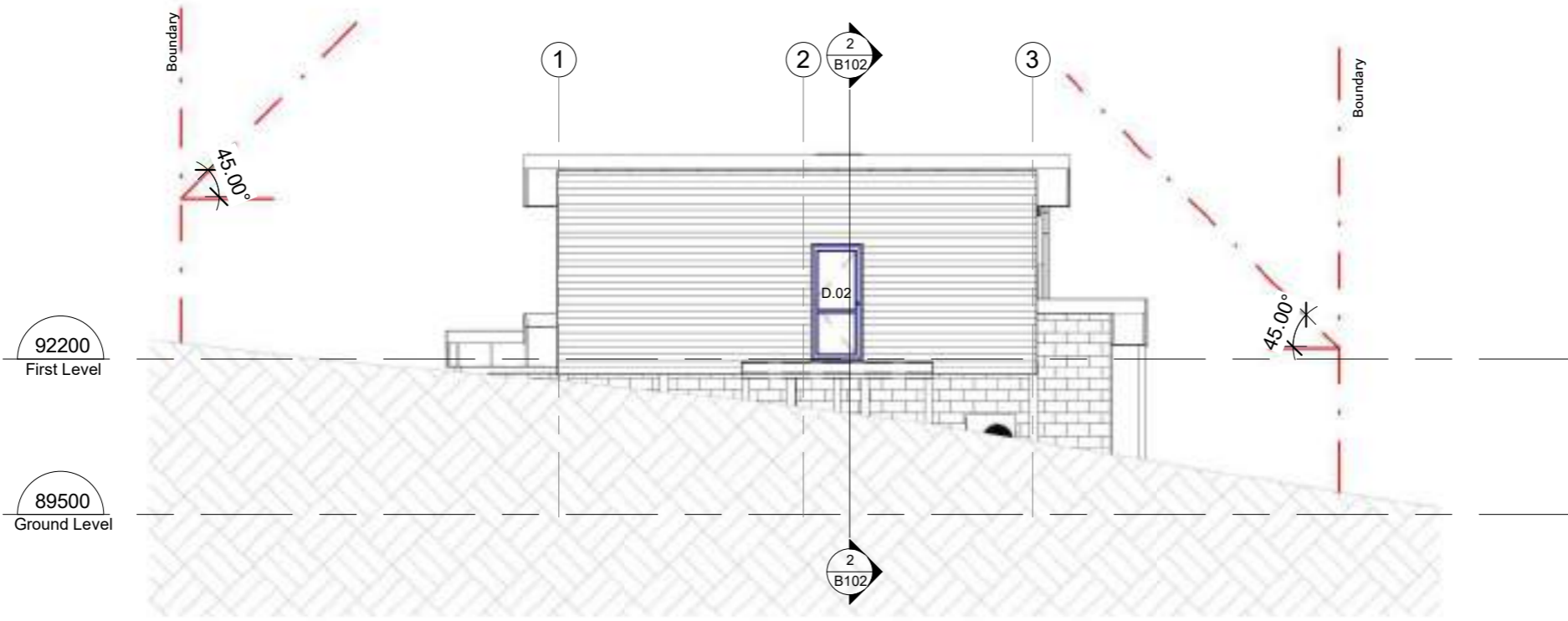
Revision No. rev 2

B100

Scale As indicated



1 North Elevation
 SCALE @ A3 - 1 : 100 | SCALE @ A1 - HALVE A3 SCALE



2 South Elevation
 SCALE @ A3 - 1 : 100 | SCALE @ A1 - HALVE A3 SCALE

BUILDING ENVELOPE RISK SCORES

Risk Factor	Risk Severity	Risk Score
A. Wind Zone	High	1
B. Number of Storeys	High	2
C. Roof/Wall Intersection Design	Low	0
D. Eaves Width	Medium	1
E. Envelope Complexity	Low	0
F. Deck Design	Medium	2
Total Risk Score		6

Use figured dimensions do not scale off drawings

Confirm all dimensions on site

All proprietary building products materials fixtures and fittings are to be used strictly in accordance with manufacturer's specifications

Underground services shown on the plan are not accurately located, confirm location of all underground services prior to any excavation work commencing

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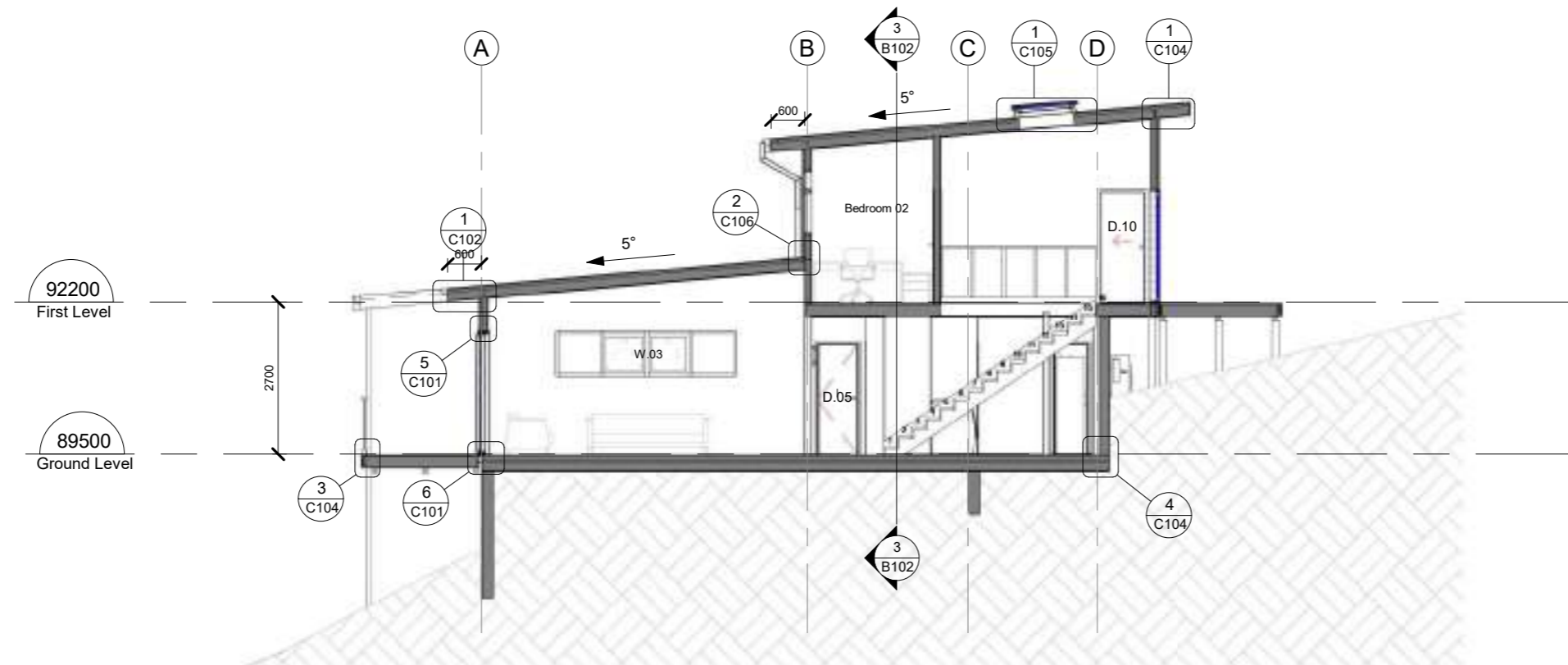
70 Mountain Road

Proposed North & South Elevations

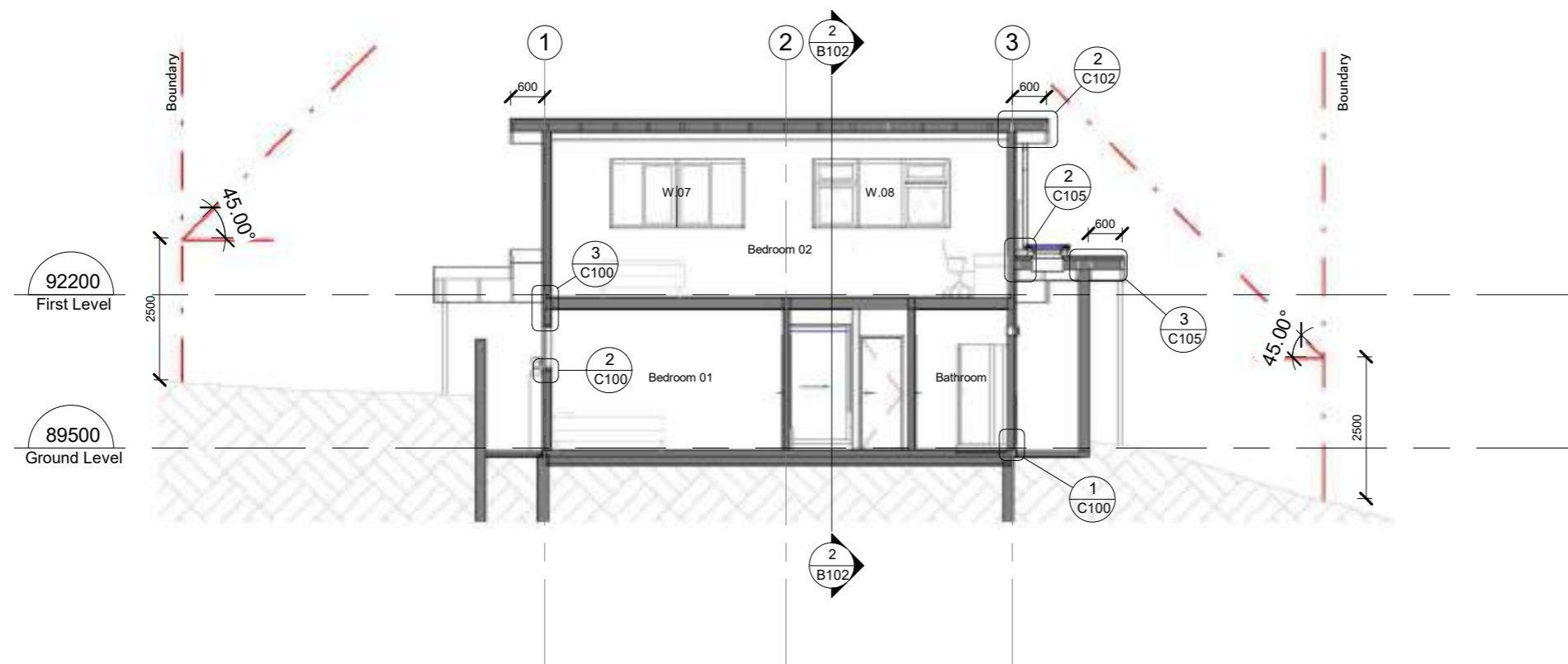
Issue	214
Drawn by	bruce
Date Printed	06/04/2022
Revision No.	rev 3

B101

Scale As indicated



2 Section AA
 A101 SCALE @ A3 - 1 : 100 | SCALE @ A1 - HALVE A3 SCALE



3 Section 1
 A101 SCALE @ A3 - 1 : 100 | SCALE @ A1 - HALVE A3 SCALE

Use figured dimensions do not scale off drawings

Confirm all dimensions on site

All proprietary building products materials fixtures and fittings are to be used strictly in accordance with manufacturer's specifications

Underground services shown on the plan are not accurately located, confirm location of all underground services prior to any excavation work commencing



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70 Mountain Road

Proposed Sections

Issue 214

Drawn by bruce

Date Printed 06/04/2022

Revision No. rev 2

B102

Scale 1 : 100



Onsite Wastewater Disposal Report

**70 Mountain Road,
Henderson Valley**

Auckland

Date: January 2022



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1. Background

CBA Consultants Ltd has been commissioned by Patrick Norton to design a wastewater disposal system for the proposed development at 70 Mountain Road, Henderson Valley. The property has access to public water supply system, but it does not have access to the public wastewater sewer network. An On-Site disposal system is proposed for the wastewater discharge of the property. The existing improvement at the site is 50 m² of batch, garage and a shed.

According to Quantum Construction attached plan 214, Sheet A101, the proposal is to construct a new dwelling at 70 Mountain Road, Henderson. The new dwelling will contain 3 bedrooms, a living room, kitchen/dinning room, 2 bathrooms with WC, and a laundry.

The following Table 1 shows the legal description of the property. According to the Auckland Unitary Plan, the property 70 Mountain Road, Henderson Valley is zoned Rural – Waitakere Ranges Zone.

Based on the above proposed development, this report, the manufacturer information and the attached CBA plans address the wastewater treatment and land application of the treated effluent. The proposal is to use Hynds Life Style system or similar for the treatment and to apply the treated effluents under the existing vegetation with limited clearance and earthwork. In accordance with the Auckland Unitary Plan E5 and GD06 the proposed discharge is considered to be a permitted activity.

Part of the site is subject of an overland flowpath, however, the irrigation field and the location of the treatment device will not be affected by it. They are located away from it.

Table 1: Legal Description and Planning Zone

Project Site	70 Mountain Road, Henderson Valley
Lot and DP numbers	Lot 27 DP 20694 NA860/9
Site Area	1905 m ²
Current Land Use	Bach
Current building cover	50 m ²
Zone	Rural – Waitakere Ranges Zone
Net Area	1905 m ²
Proposed Development Area	
Number of bedrooms	3

The Auckland Unitary Plan Overlays at the site 70 Mountain Road, Henderson Valley are shown as below:

Auckland Unitary Plan Overlays

- *Natural Resources: Significant Ecological Areas Overlay - SEA_T_5539, Terrestrial*
- *Natural Heritage: Outstanding Natural Landscapes Overlay [rcp/dp] - Area 73, Waitakere Ranges and coastline*
- *Natural Heritage: Waitakere Ranges Heritage Area Overlay - WRHA_03, Subdivision Schedule*
- *Natural Heritage: Waitakere Ranges Heritage Area Overlay - Extent of Overlay*

Controls

Controls: Macroinvertebrate Community Index - Native

2. Site Characteristics

2.1 Zoning and Vegetation

As indicated by Table 1, the property 70 Mountain Road, Henderson Valley is zoned Rural – Waitakere Ranges Zone by the Auckland Unitary Plan. The current land use of the site is Bach with the building cover of 50m². The property 70 Mountain Road is covered with native bush/trees with an existing bach at the southern end and a shed and garage at the Northern end close to the road. The proposed new building platform is around the Northern end.

2.2 Topography

The property falls from 111m at the South to 80m at the North over a distance of 95m. It has the average gradient of 32.6% (1:3.1). Based on the Slope Conversion Table of GD06, this corresponds to 18°. The proposed building platform area is between the contours 91.5m and 86.5m and extends over the distance of 18m approximately. The gradient is 27.8% or 15.5° approximately. The proposed wastewater disposal area has 27.8% or 15.5° approximately as well.

2.3 Soil and Geologic Characteristic

In 2013, Geoconsult Ltd undertook a geotechnical investigation at the property 70 Mountain Road, Henderson Valley. The borehole BH1 of Geoconsult was undertaken at the current location of the proposed land irrigation area of wastewater disposal system of the site. Based on that no new soil investigation



has been undertaken on the site. We have used the Geoconsult investigation results. Based on BH1, the topsoil depth is approximately 200mm. The underlying soil was reported to be a stiff to very stiff silt to silty orange, moist with low plasticity silt to silty clay soil.

The site 70 Mountain Road Henderson Valley is located at the South Western edge of the Auckland Urban Area Sheet R11, Geological Map of New Zealand 1:250,000. According to the Auckland Geological map (Longitude 174°64', Latitude 36°48') and according to the Geological Map 3, 1:250,000 of New Zealand Geology and Nuclear Science (GNS) indicates that the geology of the area of 70 Mountain Road is described as **Corwallis Formation Mcw** - "*Thick-bedded, graded, volcanoclastic sandstone and thin-bedded fine-grained sandstone and siltstone (volcagenic flysh)*" a Warkworth Subgroup of Waitemata Group - Miocene Age.

The Geoconsult BH1 founding is in line with the descriptions of Geological and Nuclear Science, Geological Map 3.

Table 2: Soil Category description of GD06
Table 10: GD06 soil category description

Soil category	Soil texture	Soil Subcategory	Soil structure	Typical clay content	Indicative permeability (K_{sat}) (m/d) [Note 1]
1	Gravels and sands	1a	Structureless	<5%	>3.0
		1b	Weakly structured	<5%	>3.0
2	Sandy loams	2a	Weakly structured	5 – 10%	>3.0
		2b	Massive	10 – 20%	1.4 – 3.0
3	Loams	3a	High/moderate structured	10 – 20%	1.5 – 3.0
		3b	Weakly structured or massive	10 – 25%	0.5 – 1.5
4	Clay loams	4a	High/moderate structure	20 – 30%	0.5 – 1.5
		4b	Weakly structured	20 – 30%	0.12 – 0.5
		4c	Massive	25 – 35%	0.06 – 0.12
5	Light clays	5a	Strongly structured	35 – 45%	0.12 – 0.5
		5b	Moderately structured	35 – 40%	0.06 – 0.12
		5c	Weakly structured or massive	40 – 50%	<0.06
6	Medium to heavy clays	6a	Strongly structured	40 – 55%	0.06 – 0.5
		6b	Moderately structured	>50%	<0.06
		6c	Weakly structured or massive	>50%	<0.06

Notes:

1)

Notes:

- 1) Indicative permeability K_{sat} values are based on the movement of water, not effluent, through the soil. They are estimates only and should be used with caution in assisting the determination of the soil category.
- 2) Soil category descriptions align with AS/NZS 1547:2012 and supersede those in TP58.
- 3) No correlation is implied between factors in this table. Individual testing/assessment is required for site specific soil categorisation.

The above table shows the soil category description of GD06. Based on this soil classification, Geoconsult's BH1 and the Geological Map 3, the soil group 5 has been assumed for this project for the wastewater disposal at 70 Mountain Road, Henderson Valley. The tables 10 and 11 in the Section B of GD06 defines the soil categories description and suitability.

Table 3: Soil suitability for land application, GD06

Table 11: Suitability of land application systems in soil categories

Land application method		Soil category					
Type	Method	1	2	3	4	5	6
		Gravel, coarse /medium sand	Loamy sand and sandy loam [Note 1]	Fine sandy loam, loam, silt loam	Sandy clay loam, fine sandy clay, clay loam, silty clay loam	Sandy clay, light clay, silty clay	Clays and hardpan
Shallow irrigation systems	Pressure compensating drip irrigation (surface and subsurface) (PCDI)	[Note 2] [Note 4]				[Note 3]	[Note 3]
	Low pressure pipe subsurface irrigation (LPP)		[Note 5]	[Note 5]	[Note 5]	[Note 3]	
	Low pressure effluent distribution (LPED) subsurface irrigation		[Note 4]	[Note 4]	[Note 5]	[Note 3]	
	Low pressure effluent distribution (LPED) surface trickle irrigation		[Note 5]	[Note 5]	[Note 5]	[Note 3]	
Conventional land application systems	Conventional trenches						
	Shallow trenches						
	Discharge control trenches	[Note 6]					
	Discharge control beds	[Note 6]					
	Deep trenches		[Note 7]				
	Conventional beds						
	Evapotranspiration seepage beds (ETS)						
	Wisconsin mounds						
At-grade fill mounds							
Bottomless sand filters							

Notes:

Shading denotes applicable use in this soil type with additional information provided in the number notes.

- 1) Fine wind-blown sands can exhibit characteristics similar to Category 4 and 5 soils and require careful design.
- 2) Emitter and drip line spacing to be reduced to 300 mm by 300 mm.
- 3) Special design precautions are required in these soil conditions and good topsoil depth is essential
- 4) 4) Minimum topsoil depth 150 mm.
- 5) Minimum topsoil depth 250 mm.
- 6) For use in gravels and coarse sand.

2.4 Land Disposal Irrigation

As for the disposal of the treated wastewater, because of the category 5 of the soil, which has moderate to slow drainage in the area, in accordance with Table 11 of GD06, four options of applicable land disposal methods are appropriate.

1. Pressure Compensating Drip Irrigation (surface/subsurface) (PCDI)
2. Low Pressure Pipe Irrigation (LPP)
3. Low Pressure Effluent Distribution Shallow Trenches (LPED)
4. Low Pressure Effluent Distribution (LPED) Trickle Irrigation.

Considering the site gradient of 27.5% or 15.5° in accordance with Table 13 of GD06, the available option for the site is limited to Pressure Compensation Drip Irrigation (PCDI) method. Therefore, CBA Consultants Ltd have selected Option one – **Pressure Compensating Drip Irrigation (PCDI) (Subsurface)** as it is the most practical solution on this site. The recommended loading rates for PCDI in category 5 soils according to GD06 Table 35 are 3mm/day.

The design loading type for this soil type is areal loading. For a maximum wastewater discharge of 1080 litres/day, the areal loading area required is $(1080/3=360)$ 360m² and 50% reserve area of 180 m². The treated wastewater from the HYNDS Domestic Water Treatment Plant – Lifestyle Advanced Wastewater System will be discharged into this area.

Due to the lack of grassed space area the irrigation area stretches out into the bush area. CBA Consultants Ltd believe that an arborist report would not be required here, although the supervision of an arborist would be appropriate as most of the work in laying the irrigation lines will be laid by hand with no change or damage to the bush. Also, this irrigation will be very beneficial to the bush/trees, for example, during times of low rainfall. The total irrigation is 540m² (360m² primary and 180m² reserve).

Table 4: Gradient limitations for land disposal methods, GD06

Land application system	Slope gradient limitations [Note 1]	Notes
Surface irrigation (spray, drip and low-pressure effluent distribution irrigation)	<5.7° (10%)	<ul style="list-style-type: none"> • Due to low risk of effluent run-off during wet weather. • Assumes little disturbance occurs during construction. • This is limited by natural infiltration rate and even distribution.
Subsurface drip irrigation (i.e. pressure compensating drip irrigation)	<16.7° (30%)	<ul style="list-style-type: none"> • All irrigation lines should be installed along the land contours. • If this is not possible, and if the lines have non-leak emitters, then lines may run through contour lines in accordance with the manufacturer's specifications. • A copy of the specifications should be included with the system design for approval.
Subsurface low-pressure effluent distribution or low-pressure pipe	<8.5° (15%)	<ul style="list-style-type: none"> • Shallow and narrow trenches for low pressure effluent distribution or low-pressure pipe systems must be constructed along the contour.
Evapotranspiration beds	<5.7° (10%)	<ul style="list-style-type: none"> • High soil disturbance and erosion issues may arise during construction on steeper slopes.
Trenches and beds, including discharge control trenches and beds	<8.5° (15%)	<ul style="list-style-type: none"> • Construction becomes difficult and costly when slopes are high. • High soil disturbance and erosion issues may arise during construction on steeper slopes.
Mounds	<8.5° (15%)	<ul style="list-style-type: none"> • High soil disturbance and erosion issues may arise during construction on steeper slopes.

3 Design Flow

The design is undertaken in accordance with the Auckland Council Guideline Number 06 (DG06), 2018.

According to GD06 Table 18 (Table 5) below, the occupancy allowance for the proposed 3 bedrooms dwelling is 6 persons. According to Table 5 a household with Standard Water Fixtures, the typical wastewater allowance is 180-200 litres/person/day for a reticulated community/bore water supply. The site is connected to the public water supply system. According to Domestic Wastewater Flow Allowances per capita specifies in Table 5, assuming a household with standard fixtures, the flow allowances per person of 180 litres/person/day has been used for this project. The permitted activity criteria state that maximum daily wastewater production has to be less than 2000 litres per day and the gross lot area to discharge volume ratio must be greater than or equal to 1.5, otherwise an Auckland Council Consent will be required. Below are calculations considered to size the disposal system plant:

$$\begin{aligned}
 1. \text{ Max. Daily Wastewater Discharge} &= \text{Max. Occupancy} \times \text{Flow Allowance (litres/person/day)} \\
 &= 6 \times 180 \text{ (On-site Roof water Tank supply)} \\
 &= 1080 \text{ litres per day.}
 \end{aligned}$$

$$\begin{aligned}
 2. \text{ Gross Lot Area to Discharge Volume Ratio} &= \text{Gross Lot Area (m}^2\text{)/Max Daily Flow (litres/day)} \\
 &= 1905\text{m}^2/1080 \\
 &= 1.76 > 1.5
 \end{aligned}$$

Therefore, the proposed waste water disposal system is a permitted activity.

$$\begin{aligned}
 3. \text{ Loading Rate: } &3\text{mm/m}^2\text{/day} \\
 \text{Disposal Area} &= \text{Max. Daily WW Discharge} / \text{Loading Area} \\
 &= 360\text{m}^2
 \end{aligned}$$

$$4. \text{ Minimum Reserve Area} = 50\% \text{ (surface drip irrigation)}$$

$$= 0.5\% \times \text{disposal area}$$

$$= 180 \text{ m}^2$$

Table 5: Minimum domestic wastewater flow allowance, GD06

Table 18: Minimum domestic wastewater flow allowances

Category	Source	Typical wastewater flow allowance	
		L/person/day	
		On-site roof water tank supply [Note 1]	Reticulated community or bore water supply
Domestic flow allowances			
A	Up-market/luxury or large rural lifestyle households with extra wastewater producing fixtures, such as in-sink grinders, dishwashers, modern shower or bath facilities or other comparable fixtures	220	220
B	Households with standard fixtures including 6/3 or 11 L flush water cisterns; automatic washing machine and dishwasher. These flow allowances should also be used for all rental properties regardless of fixtures	180 – 200	200
C	Households with dual flush toilet/s and standard fixtures, low water use dishwasher and no in-sink grinder	160	180
D	Households with 6/3 L flush toilet/s and standard water reduction fixtures and no in-sink disposal grinder [Note 2]	145	165
E	Households with full water reduction fixtures on all water outlets and no garbage grinder [Note 3]	120	145
F	Households with full water reduction fixtures without permanent electricity supply (fixtures as per Note 2 and Note 4 also apply)	100 – 120	120
G	Decreased flow allowances for households with full water reduction facilities as in Category E (including dual flush 6/3 L toilet systems, standard water reduction fixtures and no bath) where subject to a discharge consent	100 – 115	135
H	Households with full water reduction facilities plus reclaimed water recycle for toilet cistern flushing [Note 5]	95 – 100	100 – 115
I	Households – blackwater only (based on an 11 L flush toilet discharging to land application area)	66	

Table 18 continues on following pages

4. Wastewater Treatment & Disposal

There are several suppliers of domestic onsite wastewater disposal systems in the market, each with different products. Two of these suitable domestic wastewater treatment systems were considered and quoted for this project. They are as follows:

HYNDS Domestic Water Treatment Plant – Lifestyle Advanced Wastewater System,

Hynds Environmental has several on-site wastewater disposal systems on the market however, the Lifestyle Advanced Wastewater System was considered the most suitable for the project by both CBA Consultants Ltd and Hynds Environmental themselves. Following are the general specifications of this system:

Unit Capacity Flow: 1800 litres/day
Flow Allowance: 180 litres/person/day
Projected Flows: 900 litres/day
Irrigation Area Required: 300m²
Contract Price (incl. GST): \$13612.50
(Full Quote and details attached)

Innoflow Domestic Water Treatment Plant –AdvanTex® AX10 recirculating textile packed-bed reactor (rtPBR),

Following are the general specifications of this system:

Unit Capacity Flow: 1900 litres/day
Flow Allowance: 200 litres/person/day
Projected Flows: 1000 litres/day
Irrigation Area Required: 335m²
Contract Price: \$19050 plus GST
(Full Quote and details attached)

Based on the prices, the characteristics of 1022 Scenic Drive North, CBA Consultants Ltd recommend the HYNDS Domestic Water Treatment Plant – Lifestyle Advanced Wastewater System as it is clearly the cheaper and more practical option. It is also very efficient and requires low maintenance as well as space.

5. Land Disposal Irrigation

As for the disposal of the treated wastewater, because of the category 5 of the soil, i.e. sandy clay loam, silty clay loam and clay loam, which have moderate to slow drainage existing in that area TP58 Table TS 5-1 gives two options of applicable land disposal methods.



1. Pressure Compensating Drip Irrigation (surface/subsurface)
 2. Low Pressure Pipe Irrigation/Low Pressure Effluent Distribution Shallow Trenches.

CBA Consultants Ltd have selected Option one – Pressure Compensating Drip Irrigation (Subsurface) as it is the most practical solution on this site. The recommended loading rates for PCDI in category 5 soils according to GD06 Table 35 are 3mm/day. The design loading type for this soil type is areal loading. For a maximum wastewater discharge of 900 litres/day, the areal loading area required is 300m². The treated wastewater from the HYNDS Domestic Water Treatment Plant – Lifestyle Advanced Wastewater System will be discharged into this area.

Due to the lack of space this primary irrigation area stretches out into the protected native bush. CBA Consultants Ltd believe that an arborist report would not be required here, although the supervision of an arborist would be appropriate as most of the work in laying the irrigation lines will be laid by hand with no change or damage to the bush. Also this irrigation will be very beneficial to the bush/trees, for example, during times of low rainfall. TP58 Table 5.3 states that the minimum reserve disposal area requirements for this type of disposal are 33-100%. As there is this problem of not meeting the minimum 33% reserve area, due to the lack of space, we recommend the client to install water reduction features that would reduce the daily wastewater discharge and in turn the primary irrigation area required. These reductions will aid in attaining the minimum 33% reserve disposal area required due to the reduction primary irrigation area.

Table 6 Table 35: Soil categories and recommended maximum design loading rate (DLR) or design irrigation rate (DIR) for treated wastewater land application

Soil category [Note 9]	Soil texture	Soil structure	Indicative permeability K_{sat} (m/d)	Recommended maximum design loading rate (DLR) or design irrigation rate (DIR) – mm/day								
				Trenches [Note 7]		Beds [Note 8]		ETS beds and trenches	Subsurface and surface irrigation (e.g. PCDI)	LPED irrigation	Mounds	Bottomless sand filter
				Primary treated effluent	Secondary treated effluent	Primary treated effluent	Secondary treated effluent					
1	Gravels and sands	Structureless (massive)	>3	20 [Note 1]	25 [Note 1]	16 [Note 1]	20 [Note 1]	Not advised	5 [Note 4]	Not advised	24	70
2	Sandy loams	Weakly structured	>3	20 [Note 1]	25 [Note 1]	16 [Note 1]	20 [Note 1]	Not advised	4 [Note 4]	4	24	Not advised
		Massive	1.4 – 3	15	30	12	24		4 [Note 4]	3.5	16	
3	Loams	High/moderate structured	1.5 – 3	15	30	12	24	15	4 [Note 3]	3.5	16	
		Weakly structured or massive	0.5 – 1.5	10	30	8	24	12	4 [Note 3]	3.5	16	
4	Clay loam	High/moderate structured	0.5 – 1.5	10	30	Not advised	15	12	3.5 [Note 3]	3	Not advised Note 2	
		Weakly structured	0.12 – 0.5	6	20		Not advised	8		3		
		Massive	0.06 – 0.12	4	10		Not advised	5		3		

Soil category [Note 9]	Soil texture	Soil structure	Indicative permeability K_{sat} (m/d)	Recommended maximum design loading rate (DLR) or design irrigation rate (DIR) – mm/day								
				Trenches [Note 7]		Beds [Note 8]		ETS beds and trenches	Subsurface and surface irrigation (e.g. PCDI)	LPED irrigation	Mounds	Bottomless sand filter
				Primary treated effluent	Secondary treated effluent	Primary treated effluent	Secondary treated effluent					
5	Light clays (non-swelling)	Strongly structured	0.12 – 0.5	5 [Note 2]	12 [Note 2]	Not advised	Not advised	8	3 [Note 3]	2.5 [Note 5]		
		Moderately structured	0.06 – 0.12	Not advised	10 [Note 2]			5		2.5 [Note 5]		
		Weakly structured or massive	<0.06		8 [Notes 2 & 6]			5 [Note 6]		2.5 [Note 5]		
6	Medium to heavy clays. Swelling clays.	Strongly structured	0.06 – 0.5	Not advised	Not advised	Not advised	Not advised	2 [Note 4]	Not advised			
		Moderately structured	<0.06									
		Weakly structured or massive	<0.06									

(Adapted from: AS/NZS 1547:2012)

6. E5.4. Activity table

Table E5.4.1 Activity table specifies the activity status for the discharge of wastewater onto or into land from on-site and small scale wastewater treatment and disposal systems pursuant to section 15 of the Resource Management Act 1991.

Table E5.4.1 Activity table

Activity		Activity status	Comments
(A1)	Discharge of treated domestic type wastewater onto or into land within a site via a land application disposal system	P	Domestic wastewater to be treated and applied to land
(A2)	Discharge of treated domestic type wastewater onto or into land via a land application disposal system that was a permitted activity and/or lawfully in existence without the need for a resource consent at the date of this rule becoming operative	P	The proposal is and was a permitted activity.
(A3)	Discharge of treated domestic type wastewater from one dwelling without a permanent power supply onto or into land within a site via a land application disposal system	P	The site will have power
(A4)	Discharge of treated domestic type wastewater onto or into land via one or up to three land application disposal systems within a site, in circumstances where the systems cannot be reasonably combined	P	
(A5)	Discharges of up to 6m ³ per day of treated domestic type wastewater via a land application disposal system	RD	The discharge volume is 1.080 m ³ per day
(A6)	Discharge of treated domestic-type wastewater and wastewater (excluding trade waste) that does not meet the relevant standards or is not provided for by any other rule in the Plan	D	The wastewater is only from domestic source
(A7)	Discharge of domestic type wastewater by new deep bore disposal	Pr	N/A

As per the Activity Table E5.4.1 of the Auckland Unitary Plan, since the wastewater will only be from domestic source, the discharge is 1.08m³ per day, it will be treated using Hynds Lifestyle Advanced to treat the wastewater before applying the treated effluent to land. The proposed wastewater disposal at 70 Mountain Road, Henderson Valley complies with E5.6.1, it is a Permitted Activity.

7. Conclusion & Recommendations

The Design is shown by the CBA Consultants Ltd's plan No: CBA 794

CBA Consultants Ltd believe that the soil type encountered after the soil investigation, according to the GD06 Table 35 is a category 5 soil, silty clay loam that has moderate to slow drainage.



The bush area is appropriate for the disposal of treated waste water effluent using Sub-surface Pressure Compensating Drip Irrigation with a loading rate of 3mm/day. The proposed wastewater discharge is considered a permitted activity as the maximum daily discharge is below 2000 litres/day at 1080 litres and the gross lot area to discharge volume ratio is greater than 1.5 at 1.76.

The occupancy allowance for the proposed development is 6 persons. It is assumed that the dwelling will be connected to public water supply network, and a flow allowance of 180 litres/person/day giving 1080 litres/day in total discharge. We recommend for the client to install water reduction features that would reduce the daily wastewater discharge and this in turn reduces the primary irrigation area required.

The primary treated wastewater disposal/irrigation main (360 m²) and reserve (180 m²) areas will be into the bush. CBA Consultants Ltd believe that an arborist report would not be required here, although the supervision of an arborist would be appropriate as most of the work in laying the irrigation lines will be laid by hand with no change or damage to the bush. Also, this irrigation will be very beneficial to the bush/trees, for example, during times of low rainfall.

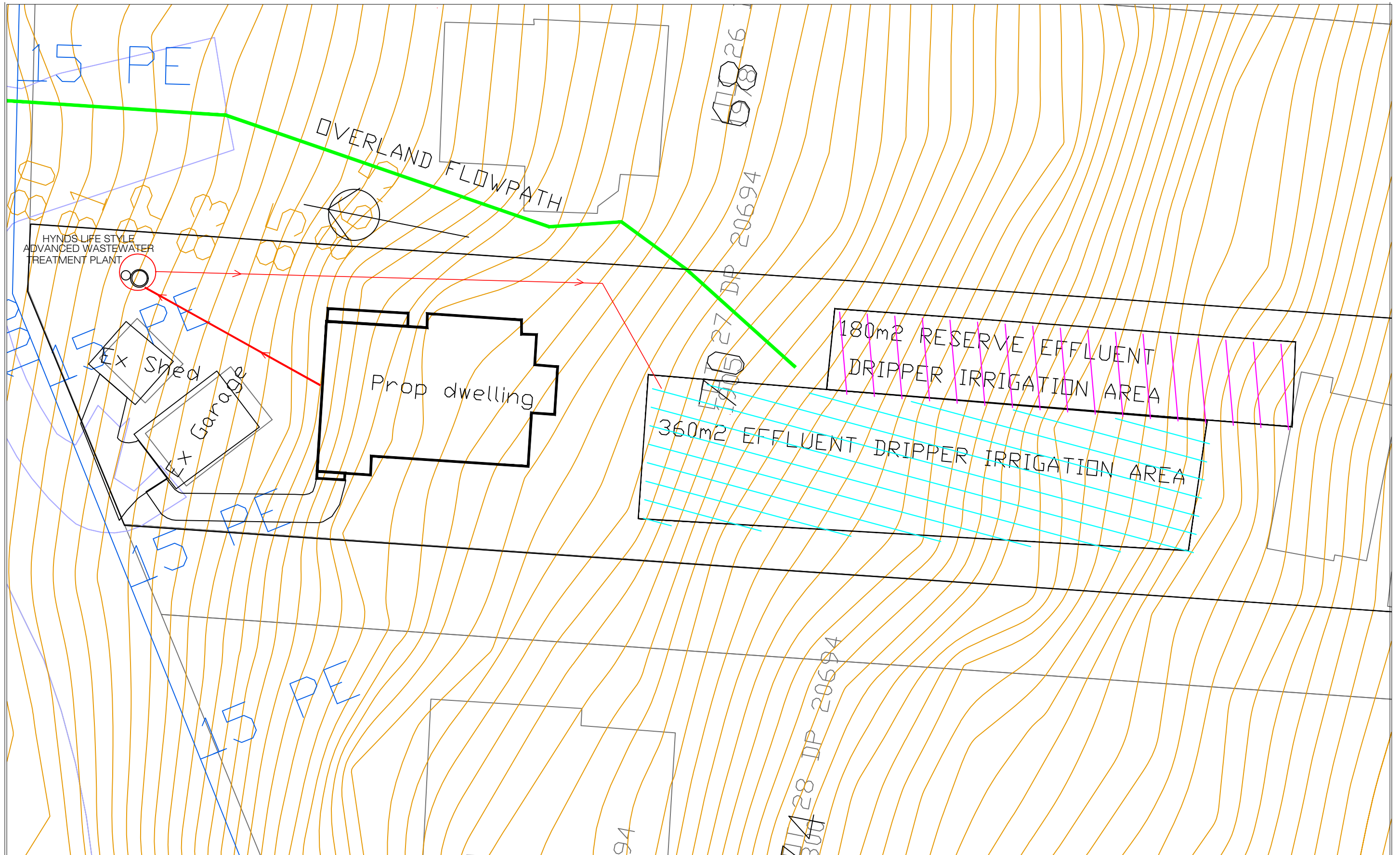
Finally we recommend HYNDS Domestic Water Treatment Plant – Lifestyle Advanced Wastewater System as it is clearly the cheaper and more practical option. It is also very efficient and requires low maintenance as well as space.

In accordance with Auckland Unitary Plan E5, the proposal is a permitted activity

Prepared by:

Date: 18 January 2022

Boubacar Coulibaly
ME, CPEng, MIPENZ



AMENDMENTS				
ISSUE	REVISION	BY	CHECK	DATE

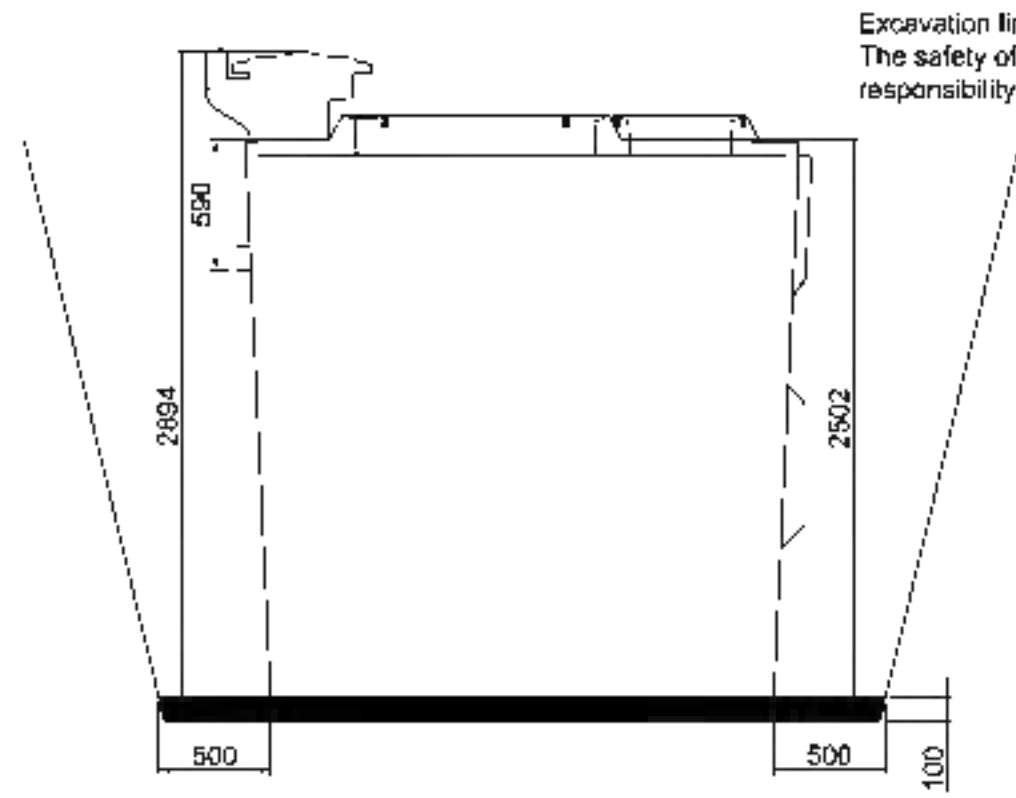
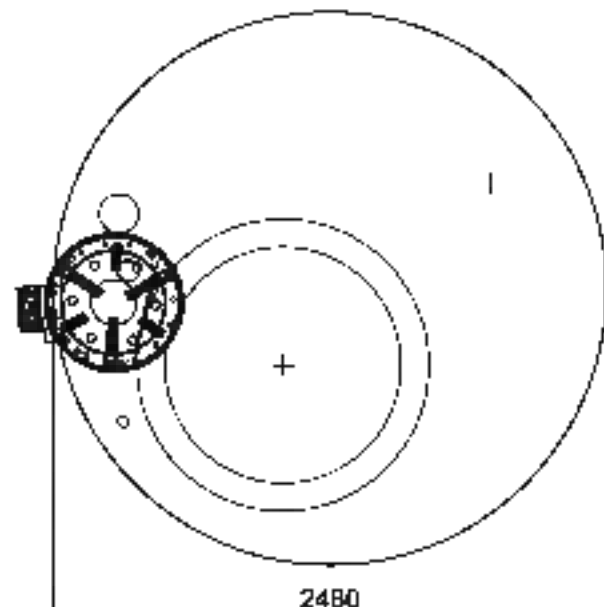
DESIGNED	B. COULIBALY	DATE	18/1/2022
DRAWN	BC	DATE	18/1/2022
CHECKED		DATE	
APPROVED		DATE	



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PROJECT NAME: 70 MOUNTAIN ROAD, HENDERSON VALLEY
 PLAN TITLE: PROPOSED DRAINAGE & OVERLAND FLOWPATH
 SITE PLAN

SCALE (A3):	1:250	FILE NO.	1210	ISSUE	A
REFERENCE DRAWING N°	CBA1201	DWG NO.	CBA1210	OF	2
CAD ARCHIVE S:\CBA CONSULTANTS\PROJECT					



Excavation lines are indicative only
The safety of all site works are the
responsibility of the contractor.

NOTES:

- 1. All dimensions are in millimeters unless otherwise stated.
- 2. All drawings are to be read in conjunction with the specification and the contract documents.
- 3. The contractor shall be responsible for obtaining all necessary permits and approvals.
- 4. The contractor shall be responsible for the safety of all site workers.
- 5. The contractor shall be responsible for the protection of all existing services and structures.
- 6. The contractor shall be responsible for the disposal of all waste materials.
- 7. The contractor shall be responsible for the reinstatement of all disturbed areas.
- 8. The contractor shall be responsible for the completion of all works within the specified time frame.
- 9. The contractor shall be responsible for the provision of all necessary resources and equipment.
- 10. The contractor shall be responsible for the maintenance of all records and documentation.

REV	DESCRIPTION	DATE

HYNDS
180 001 CERTIFIED MANAGEMENT SYSTEM

PROJECT
Standard Drawing
Lifestyle Advance WWTP

DRAWING TITLE
Lifestyle Advance / Ultimate
CLE800.B42A.IH (Pakowai)
CLE800.B42R.1 (Pamerson North)
CI FB500 D-IR-5K (Christchurch)

NO.	DESCRIPTION	DATE

ISSUE	AMENDMENTS	BY	CHECK	DATE

DESIGNED	B. COULIBALY	DATE	18/1/2022
DRAWN	BC	DATE	18/1/2022
CHECKED		DATE	
APPROVED		DATE	

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PROJECT NAME: 70 MOUNTAIN ROAD, HENDERSON VALLEY
PLAN TITLE: HYNDS LIFE STYLE ADVANCED WASTEWATER TREATMENT PLANT

SCALE (A3): 1:250	FILE NO. 1210	ISSUE A
REFERENCE DRAWING N° CBA1201	DWG NO. CBA1210	SHEET 2 OF 2
CAD ARCHIVE S:\CBA CONSULTANTS\PROJECT		



Patrick Norton

New residence at

70 Mountain Road
Henderson Valley
Auckland

Ecological Assessment

Revised 23 January 2023

Prepared by

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**Report of the ecological assessment of the site of the proposed development
at 70 Mountain Road, Henderson Valley, Auckland.**

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Report of the ecological assessment of the site of the proposed development at 70 Mountain Road, Henderson Valley, Auckland.

1. INTRODUCTION

Nick Robinson, ecology consultant, has been engaged to carry out an ecological assessment (EA) of the proposal for residential development at 70 Mountain Road, Henderson Valley.

The site is in the Rural - Waitākere Ranges Zone and is subject to Unitary Plan overlays and controls which are designed to protect its ecological values. These include

Natural Resources: Significant Ecological Areas Overlay - SEA_T_5539, Terrestrial

Natural Heritage: Outstanding Natural Landscapes Overlay [rcp/dp] - Area 73, Waitākere Ranges and coastline (note this applies only to the very south west corner of the site and is not affected by the proposals.)

Natural Heritage: Waitākere Ranges Heritage Area Overlay - WRHA_03, Subdivision Schedule

Natural Heritage: Waitākere Ranges Heritage Area Overlay - Extent of Overlay.

This assessment will examine ecological values of the site and if it is concluded that adverse effects have the potential to arise as a result of the proposed development, recommendations will be made for how they can be avoided, remedied or mitigated.

2. SCOPE AND METHODOLOGY

A desktop review was undertaken of the geographical information and literature available on the vegetation and wildlife of the area, including a number of vegetation surveys (see section 9 References).

The Auckland Unitary Plan (AUP) was examined to establish the objectives and policies relating to ecology in the relevant zone, overlays and controls.

Following this the site was inspected on 7 October 2022 and all plant and animal life observed in and around the site was recorded. Existing vegetation in the environs of the site was also observed as this provides a guide to other species likely to colonise and form a component of the future vegetation of the site.

3. SURVEY OF THE SITE AND SITE CONTEXT

3.1 Site location and attributes

Location: The application site ("the site") is situated at 70 Mountain Road, Henderson Valley. The site is long and narrow and slopes down to the road. The bottom of the site (its northern boundary) gives access to a shared driveway which leads to Mountain Road.

Buildings: There are a number of buildings on the site at the lower (northern) end with sealed

access to a shared driveway. These are a garage and a nearby shed/workshop area. At the top (south) end of the site, remote from the driveway, with no sealed access and no vehicle access are the ruins of the previous house now demolished. This stands within a clearing now overgrown with weed.

The SEA which overlies the site is part of the extensive SEA which covers much of the valley. It comprises regenerating native forest at various stages of regeneration. There are mature specimens of kanuka and young-mature rimu, rewarewa and kohekohe with undergrowth of native and exotic shrubs and young trees together with ground layer plants, including regenerating forest species. The height of the vegetation varies across the site and is given in the description of the vegetation types A to F.

Topography: The site falls more than 30 metres in total elevation from its southern boundary which is just below the ridgeline to the driveway at the bottom. It is approximately 97 m long and so the average gradient is approximately 1 in 3.3 overall. The highest elevation is approximately 111 metres ASL at the southern boundary and the bottom of the site is approximately 79.5 m. An aerial view of the site is shown in Figure 1. A topographical survey of part of the site was undertaken by Kiwi Vision Surveying Consultants Limited, which was confined to the area around the existing and proposed buildings. For the remainder of the site the contours provided by the Auckland GeoMaps were used as a guide to the topography.

Watercourses, overland flow paths and wetlands: There is no permanent watercourse on site there is the start of an overland flowpaths (OFP) with catchment between 2000 and 4000 square metres, leaving the site at its eastern boundary (see Figure 1). The nearest are shown on the Council Geomaps aerial photograph in Figure 1. There are no natural freshwater wetlands on the site or within 100 m of the proposed development.

3.2 Description of the site ecology

The dominant vegetation on the site as it slopes down to the road is regenerating lowland forest, currently assessed as 'VS2 – kānuka scrub/forest' (Indigenous terrestrial and wetland ecosystems of Auckland, Auckland Council 2017). This type has assessed Regional IUCN threat status of: Least Concern. There are no recorded verifiable sightings of native flora and fauna of special interest on or near the site (https://inaturalist.nz/observations?captive=false&place_id=6803&subview=map&iconic_taxa=Plantae,Reptilia,Aves,Amphibia,Arachnida,Insecta,Mammalia,Fungi,Actinopterygii,Protozoa,Mollusca,unknown).

The dynamic nature of the secondary forest ecology throughout the area is reflected in the varied vegetation types and the diversity of trees and shrubs both native and exotic including many weed species in previously cleared areas. The majority of the weed presence is in the open areas and edges.

The present canopy is formed by a native trees and shrubs including kānuka at various stages of maturity together with occasional forest tree such as rīmu (*Dacrydium cupressinum*) and lower canopies including māpou (*Myrsine australis*), māhoe (*Melicactus ramiflorus*) karaka (*Corynocarpus laevigatus*), kohekohe (*Dysoxylum spectabile*), pōnga (*Cyathea dealbata*) and kawakawa (*Piper excelsum*) along with the adventive cherry (*Prunus* sp.). The site vegetation is characterised in zones A to F as indicated in Figure 2.



Figure 1. Aerial view of the site outlined in light blue, with contours. The existing garage is visible in the top of the photo and the ruins of the previous dwelling in the bottom. The road visible in the top left is Mountain Road. Image Auckland GeoMaps.



Client • Patrick Norton
Site • 70 Mountain Road

New residence
Vegetation zones overlaid on existing site survey

Revision/Issue	Date	Details	By

Drawing n°: **EA.01** Rev/Issue:
Original sheet size: **A3**
Scale: 1:500 at A3 1:xxx at A1
Drawn by: NR
Date: 14 11 22

landscape architecture . ecology . urban design
NICK ROBINSON
0 n r o b i n s o n . c o n z n o 7 7 7 7 6 8 4 4 6
www.nickrobinson.co.nz

Figure 2. Aerial view of the site with the vegetation zones indicated. The green x hatched area is the SEA as mapped on the AUP.

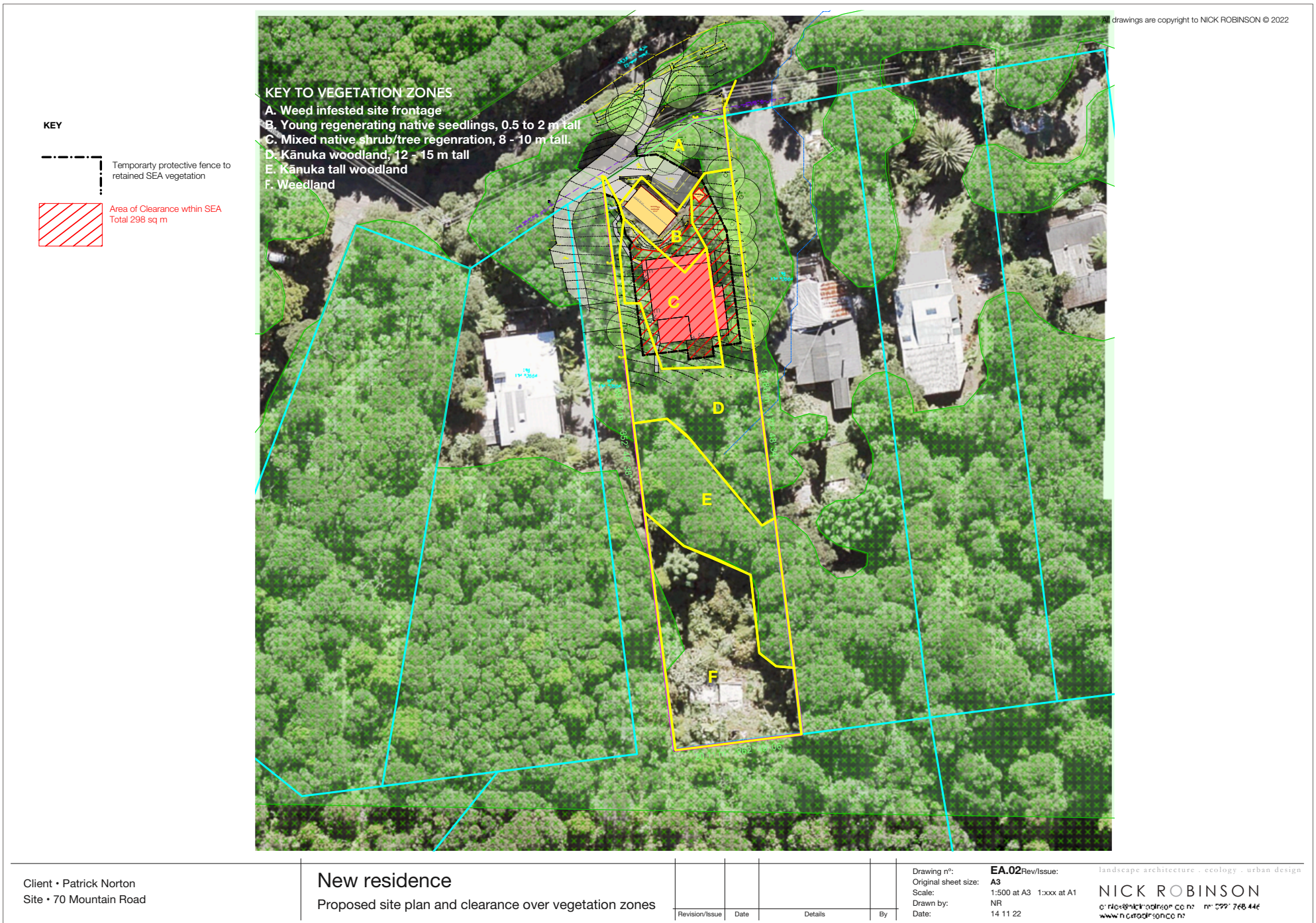


Figure 3. Aerial view of the site with the vegetation zones, the proposed site layout and the clearance area indicated. The green x hatched area is the SEA as mapped on the AUP.

The site area is 1905 square metres, of which the mapped SEA area covers approximately 1800 square metres of the site and constitutes a large proportion of the application property. The vegetation character and main species present in each of the Zones A to F are described below:

Zone A. Weed infested site frontage. This area is located around the existing garage, workshop and shed at the front of the site and occupies previously cleared areas. There are a small number of mature kānuka to about 10 m tall, but these are growing from a ground layer of almost entirely weed and pest plant species, including: *Plectranthus ciliatus*, *Hedychium gardnerianum*, *Nephrolepis cordifolia*, *Solanum mauritianum*, *Crocosmia x crocosmiiflora* and *Asparagus setaceus*. This area is mostly outside of the SEA but would benefit from weed clearance and revegetating with local flora in part as a protection for the SEA vegetation from invasive pest plant species.

Zone B. Young regenerating native seedlings, 0.5 to 2 m tall. This small zone lies immediately to the side and rear of the garage on steep banks which were presumably cleared to allow construction of the garage. It is surprisingly lacking in weed species weed and includes young plants and seedlings of the following natives: māhoe (*Melicytus ramiflorus*), silver ponga (*Cyathea dealbata*), porokaiwhiri (*Hedycarya arborea*), whauwhaupaku (*Pseudopanax arboreus*), karamū spp., tī kōuka, māu, hangehange, plus ferns and sedges, especially *Gahnia setosa*.

Zone C. Mixed native shrub/tree regeneration, 8 - 10 m tall. This is a limited area located behind the garage. It comprises a dense grove of young plants of the following species: māpou (*Myrsine australis*), kohuhu (*Pittosporum tenuifolium*), māhoe (*Melicytus ramiflorus*), tī kōuka (*Cordyline australis*) kawakawa (*Piper excelsus*) and kānuka saplings, and a very small number of seedling kahikatea (*Dacrycarpus dacrydioides*) and rimu (*Dacrydium cupressinum*). The canopy height is approximately 8 to 10 m (estimated height). There are few weed species but those that are present include Himalayan ginger, wisteria and Chinese privet. The ground layer is sparse mainly due to the dense growth of shrubs and young trees.



Figure 4. A view within Zone A showing native shrubs and tree fern emerging from weed cover.



Figure 5. A view within Zone B showing the strip adjacent to the garage



Figure 6. A general view within Zone C showing close shrub and young tree growth

Zone D. Kānuka woodland, 12 - 15 m tall This vegetation is mature kānuka regenerated forest with a moderately open canopy and hence supporting a diverse understory of native plants plus occasional weed species. Species present include: kānuka (*Kunzea robusta*), two rimu 10 to 15 m tall, one mature toro (*Myrsine salicina*), silver pōnga, large leaved karamū (*Coprosma grandiflora*), māhoe (*Melicactus ramiflorus*), māpou, hangehange (*Geniostoma rupestre*), nikau (*Rhopalostylis sapida*), rewarewa (*Knightia excelsa*), sedges (*Gahnia setosa*), porokaiwhiri. The small number of weeds include wisteria, and himalayan ginger. This zone comprises good quality and reasonably diverse established regenerating forest, advancing towards podocarp-broadleaf forest

Zone E. Kānuka tall woodland: This forest is similar to zone D but the kānuka are generally about 18 m tall (estimated height). Due to a more fully develop canopy the vegetation below is less well developed at shrub and ground levels the shrub layer includes a number of nikau of various ages, silver pōnga, hangehange and mingimingi (*Leucopogon fasciculatus*). It also includes taller rimu one rimu had a bole diameter at GL+1m of 400 mm, the kānuka bole diameters range up to 500 mm. This zone is good quality and reasonably diverse well established mature kānuka forest, advancing towards podocarp-broadleaf forest.

Zone F. Weedland. This comprises abandoned old garden and cleared areas near the demolished house at the top of the property. This area is dominated by pampas grass, plectranthus ciliatus, bamboo, elephant grass, grape vine and other exotics garden escapes and weed species. Scattered native species include māpou, māhoe, pōnga, cordyline banksii, toatoa, karamū (*Coprosma robusta*), mānuka and whauwhaupaku. This zone is not within the SEA.



Figure 7. A view within Zone D within the kānuka woodland showing a solitary rimu



Figure 8. A view within Zone E within the tall kānuka woodland



Figure 9 View within Zone F showing a number of weed species close to old structures

3.3 Birds

A number of bird species were observed or heard in or near to the site including native tūī (*Prosthemadera novaeseelandiae novaeseelandiae*), grey warbler/riroriro (*Gerygone igata*), fantails/pīwakawaka (*Rhipidura fuliginosa placabilis*). Introduced and naturalised bird species including blackbirds (*Turdus merula*) were also observed. New Zealand pigeons/kererū (*Hemiphaga novaeseelandiae*) are likely to visit the site.

None of the native bird species observed are currently listed as threatened. The forest and scrub areas provide shelter food and nesting sites for local birds. Avifauna management is recommended during clearance and disturbance (refer to RECOMMENDATIONS). This includes requirements associated with any disturbance or clearance during the primary nesting season and would include a survey of potential nesting sites prior to clearance and means of avoidance during site works.

3.4 Lizards

Although only rainbow skinks (*Lampropholis delicata*) were observed on the day of the survey (the weather was cool and overcast), the vegetation areas of the site are likely to provide suitable habitat for ground and arboreal herpetofauna. No formal searches for lizards or invertebrates were undertaken but native skinks may be present among ground litter such as fallen logs and branches and open areas around the demolished buildings. Arboreal geckos may be present within the canopies of tree species such as kānuka, pōnga, and berry bearing trees. A lizard management plan is recommended to ensure that lizards are safeguarded during the construction period (refer to RECOMMENDATIONS).

3.5 Bats

There are no trees on site which are likely roosts for bats, that is, no standing dead or die-back trees, or trees with hollows present. Although there are no records of bat sightings in the local area it is possible that native bats may be present within the wider local landscape of the SEA and the outstanding natural landscape which covers much of the foothill in this part of Henderson Valley. However, there is no evidence to suggest that the works proposed on the site could have any significant adverse effect on bats or bat habitat.

4. THE AUCKLAND UNITARY PLAN

This section addresses the elements of the Auckland Unitary Plan (AUP) related to the ecological aspects of the proposal. Please refer to the Applicant's planner's assessment of effects for a full examination of the planning context of the proposal and assessment against the full range of provisions.

The site is situated in the Rural - Waitākere Ranges Zone and is subject to Unitary Plan overlays and controls which are designed to protect its ecological values. These include

- Natural Resources: Significant Ecological Areas Overlay - SEA_T_5539, Terrestrial
- Natural Heritage: Waitākere Ranges Heritage Area Overlay - Extent of Overlay

4.1 Key planning objectives and policies.

The key planning objectives and policies provided by the zone, overlays and controls and which are most relevant the site's ecological values site are as follows:

D9. Significant Ecological Areas Overlay

D9.2. Objectives [rcp/rp/dp]

(1) Areas of significant indigenous biodiversity value in terrestrial, freshwater, and coastal marine areas are protected from the adverse effects of subdivision, use and development.

(2) Indigenous biodiversity values of significant ecological areas are enhanced.

There are extensive policies enumerated in section D9.3. Policies, which require the avoidance of adverse effects on ecological values and promote enhanced biodiversity. These will not be quoted in full, but the effects to be avoided which may be most relevant to the present site are

- (a) fragmentation of, or a reduction in the size and extent of, indigenous ecosystems and the habitats of indigenous species;
- (b) fragmentation or disruption of connections between ecosystems or habitats;
- (c) changes which result in increased threats from pests on indigenous biodiversity and ecosystems;
- (g) a reduction in the abundance of individuals within a population, or natural diversity of indigenous vegetation and habitats of indigenous fauna;
- (i) effects which contribute to a cumulative loss or degradation of habitats, species populations and ecosystems;
- (k) loss of, or damage to, ecological mosaics, sequences, processes, or integrity;

E15 Vegetation Management and biodiversity

for which the objectives include:

E15.2. Objectives

(1) Ecosystem services and indigenous biological diversity values, particularly in sensitive environments, and areas of contiguous indigenous vegetation cover, are maintained or enhanced while providing for appropriate subdivision, use and development.

(2) Indigenous biodiversity is restored and enhanced in areas where ecological values are degraded, or where development is occurring.

and policies:

E15.3. Policies [rcp/rp/dp]

(1) Protect areas of contiguous indigenous vegetation cover and vegetation in sensitive environments including the coastal environment, riparian margins, wetlands, and areas prone to natural hazards.

(2) Manage the effects of activities to avoid significant adverse effects on biodiversity values as far as practicable, minimise significant adverse effects where avoidance is not practicable, and avoid, remedy or mitigate any other adverse effects on indigenous biological diversity and ecosystem services, including soil conservation, water quality and quantity management, and the mitigation of natural hazards.

The use of a site for residential habitation is anticipated in the plan and provision is made for the necessary clearance in the following section:

E15.6.5. Vegetation alteration or removal within a significant ecological area for a building platform and access way for a dwelling per site

(1) The total area of vegetation alteration or removal must not be greater than 300 m².

5. THE PROPOSED DEVELOPMENT

The proposed development of the site is for a new dwelling to be constructed on the ground immediately behind and above the existing garage, which is to be retained. Please refer to the architect's drawings for the proposed site layout and Nick Robinson drawing EA.02 (Figure 3) for the location and limits of the area of clearance that would be required. This totals 298 square metres of clearance within the SEA. Access to the site is to be from the existing driveway to Mountain Road and through the area currently occupied by a shelter/workshop which is not within the SEA. The Clearance area includes a minimum 1.5 m metre curtilage around the building to allow access for construction.

This clearance is in the majority confined to Vegetation Zones B and C, which are not the most valuable on site, plus a small amount in Zone D but allowing for the protection of the mature kānuka.

In summary, the location and layout of the building proposal and associated utilities has been developed by the architect in collaboration with the ecologist. This has resulted in a building footprint which is within the extent of the SEA but is as compact as practicable and situated in an area of lesser ecological value. Other locations have been considered and rejected :

1. The site of the previous dwelling house, now demolished. This unfortunately would require clearance of the SEA even for pedestrian access only. This distance from vehicle access of any kind is considered onerous.

2. The site of the existing garage. This is too small to allow the construction of a dwelling house, would be too close to the driveway and would be likely to infringe the front yard standard.

6. ASSESSMENT OF EFFECTS ON THE SITE ECOLOGY AND PROPOSED MITIGATION MEASURES

The layout of access and buildings has been designed for efficiency of site space requirements and to reduce fragmentation of the indigenous ecosystem. The proposed site layout and mitigation recommendations (refer to recommendations section) also aim to avoid increased threats from pests, reduction in the abundance of birds and other fauna, and to minimise impact on the natural diversity of the indigenous vegetation and habitats on the site.

Clearance and other effects

The total extent of proposed clearance at the site is 298 square metres (refer drawings EA.02 (Figure 3). This is less than the maximum in the AUP standard (300 sq m) and it involves mainly clearance of less mature vegetation in Zones B and C, which are of lower ecological value than zones D and E which include larger trees. Where clearance it comes close to mature native trees (mostly kānuka) to be retained at the at the edge of the clearance, a construction methodology (refer to Appendix A) will be implemented to ensure the retention of those trees in good health.

Edge reinforcement planting is proposed to protect and re-establish native vegetation at the edge of the clearance area in order to mitigate the potentially damaging effects of opening up the interior of plant communities.

All trees, shrubs and other native vegetation will be subject to the provisions of the recommended Avifauna and Herpetofauna Management Plans to ensure that native fauna is safeguarded during clearance and construction.

One potential effect on the ecological values which should be assessed is the potential for loss of buffering of indigenous ecosystems (AUP Chapter D.9.3 (2) (d)). This might be a possible consequence if the proposed occupation of the site lead to damaging activities such as garden rubbish dumping, pet roaming or any clearance of vegetation within the remaining SEA. However, in the current development proposal these effects should be avoided through the continuing protection conveyed by SEA status of the remaining area.

The consent holder and future residents should be informed of their obligation to avoid damage to the SEA vegetation, to prevent domestic animals from roaming and to avoid all tipping

of garden or other vegetation debris and refuse.

The proposed clearance in part of the weed infested Zone A would help to protect the existing native ecology by removing a major source of weed invasion to the SEA.

Construction access and storage areas will be restricted to those areas to be cleared and fenced during the development of the site. The remaining vegetation will be fenced off with temporary protective fencing as specified in the Construction Conservation Methodology in Appendix A.

Mitigation measures

Mitigation proposals comprise:

1. Protective methodologies for site clearance and construction, including lizard and avifauna management plans.
2. Weed and animal pest clearance across the site and continuing control plan for a minimum of five years.
3. Comprehensive eco-sourced planting for the site frontage and existing clearing outside of the SEA and edge planting to the buildings' curtilage. This planting is intended to establish a shrub and ground layer in the areas immediately adjacent to the house and garage compatible with the use of the site for residential purposes.
5. A five year programme for the establishment of this locally indigenous planting in combination with the weed and pest control plan for a minimum of five years.

Protection methodologies

All clearance will be carried out under the supervision of the ecologist and/or the works arborist, and lizard and bird management plans (Appendices C and D) will be operated to ensure the protection of retained bush and the maintenance of native fauna populations and habitats.

Weed and animal pest clearance and management

A programme of weed clearance within the SEA, ongoing management and is recommended through the remaining SEA area throughout Zone B and at the weed infested edges of Zones A and C. All weed in Zone F (outside the SEA) is also to be cleared and the area revegetated. Pest plant removal and weed control will be undertaken throughout the SEA over a period of five years. Animal pest monitoring and control is also recommended (refer to Appendix B Weed and Pest Animal Control Plan, for methodologies).

Edge repair of SEA

Edge and site frontage planting proposals are to be implemented for the remaining SEA areas and the site frontage and zone F old building clearing - both outside the SEA (refer Nick Robinson Drawings PP.01 PP.02 and PP.03). This planting and ecological management, including pest plant removal and weed control will, in time, greatly enhance the conditions within the remaining bush areas and improve their ecological health. It will also focus on restoring the

edges of the bush to provide dense native vegetation and reduce the chance of further weed invasion.

Programme for the establishment of planting for a minimum of five years

This is provided for in the establishment programme (refer NR sheet PP.02).

These measures would have a help to maintain a resilient ecosystem, despite the use of the site for residential purposes, including the protection of the bush interior and reduce its exposure to light, dry air and wind and weed invasion that might arise from clearance.

Further recommendations include a restriction on domestic pets on the site and preventing the disposal of any garden refuse within the SEA. This will help to avoid predation of native bird-life and other fauna and remove a common source of weed colonization.

The proposal to protect and manage the conserved areas of native vegetation on the site will avoid cumulative loss or degradation of habitats, or reduction in species populations and ecosystems during the occupation of the site.

In summary, the design and management of the development will ensure that the adverse effects on the site's ecology are avoided or minimised and the ecological integrity of the site is maintained as far as practicable given the residential nature of the site. The loss of vegetation and habitat area required for the construction of the dwelling will be mitigated by new edge repair and enhancement planting. The remaining vegetation of the Significant Ecological Area which covers the site will continue to be protected under the provisions of the AUP, and the areas of site within the SEA where the existing ecosystem has become degraded due to weed invasion will be restored as part of the weed management plan and in parts by the proposed enhancement planting especially in Area A (refer to drawing PP.01 in Figure 10). Given the surrounding native seed source area A will be likely to support self sown native trees which will in the long run form part of the site forest regeneration.

7. RECOMMENDATIONS

1. Clearance: Ensure that all construction activities are subject to the Construction Methodology in Appendix A and strictly confined to the fenced Clearance Area as shown on Nick Robinson drawing EA.02 (Figure 3). The area to be cleared shall be identified on site by a registered surveyor and marked out for the approval of the Works Arborist or Ecologist before any clearance is carried out.

2. Vegetation protection. The vegetation of the SEA outside of the clearance area shall be fully fenced and fully protected throughout the construction period and in perpetuity. The temporary protective fence shall be located as shown on the proposed clearance and fencing plan (Nick Robinson Drawing EA.02). This fencing shall be to the specification in the Construction Methodology (Appendix A) and to the satisfaction of a suitably qualified ecologist or arborist. It shall be maintained intact throughout the construction period in order to prevent any access to the existing vegetated area of the SEA.

3. General Construction Methodology: There are a number of mature trees to be retained close to the clearance area whose root systems could be affected by any excavation, compaction or storage, tipping or spreading of material within the clearance zone. The Construction methodology and protection measures specified in Appendix A must be applied for all works in the vicinity of trees to be retained. The site shall be monitored during the construction period by a suitably qualified ecologist to ensure that these measures are fully employed.

4. Utilities: Any new stormwater pipes, wastewater and wastewater dispersal pipes within the retained vegetation of the SEA or in locations which damage protected trees and trees to be retained could be laid on the surface of the ground. There should be no trenching and excavation in these zones or of these services.

5. Lizard management is provided for in Appendix C

6. Avifauna management is provided for in Appendix D

7. Weed and animal pest management plan: Carry out weed and pest animal management plan to all areas of the SEA on the site. This is to include clearance from the site of all pest plants as defined in the Auckland Regional Pest Management Strategy, and as specified in Appendix B before restoration planting and during the establishment period. Monitor and control animal pests as described in Appendix B.

8. Enhancement planting: Carry out the edge repair and general enhancement planting and establishment as detailed on Nick Robinson sheets PP.01, PP.02 and PP.03. The planting plan along with a programme of establishment all as shown on Nick Robinson Drawings PP.01 and PP.02 and PP.03 shall be implemented during the first planting season following completion of construction works.

9. It is recommended that pet animals should not be kept on the site and that the residents be made aware of the need to avoid any placement of garden or other waste within the SEA area.

8. CONCLUSION

It is concluded that, provided the recommendations above are adopted, the development of the site as proposed will achieve a reasonable balance between the residential use of the site as anticipated in the AUP, the need for reasonable residential amenity and the maintenance of ecological values. The clearance proposed is less than the maximum permitted by the AUP in section E15.6.5 (1).

In the longer term the edge repair and enhancement planting including areas outside the SEA and the recommended pest animal and weed management and would mitigate the loss of ecological values resulting from the site clearance and will provide overall ecological improvements.

The site vegetation will continue to form an integral and enhanced part of the Significant Ecological Area and the local ecosystem.

9. REFERENCES

iNaturalist, (https://inaturalist.nz/observations?project_id=24684)

Lucas Associates, (2008) *Native to the West A guide for planting and restoring the nature of Wāitakere City*. Waitākere City Council.

Singers, N.J.D.; Rogers, G.M. (2014): A classification of New Zealand's terrestrial ecosystems. *Science for Conservation* 325. Department of Conservation, Wellington. p87..

APPENDIX A Construction Methodology

SITE SPECIFIC CONSTRUCTION METHODOLOGY FOR THE PROTECTION OF EXISTING TREES AND OTHER VEGETATION TO BE RETAINED at 70 Mountain Road, Henderson Valley.

A.1 Introduction

1. This methodology applies to all physical works connected with clearance of vegetation, felling, pruning, excavation within the drip lines of existing trees to be retained and that may be affected by the works in any way. It also applies to use of the site by machinery, storage of materials, and general access and activities by persons carrying out construction works on the site.
2. Note that damage can occur by either direct physical interference with the vegetation (including its root system), or by alteration of growing conditions (including the soil and drainage conditions) in such a way that the natural growth of the vegetation is severely impaired. Damage may become visible immediately (such as in the case of limb removal or trunk damage) or may only become apparent after a period of time (as happens with root damage or wound infection).
3. All tree removal, pruning and construction works which occur within the root zone of retained trees shall be undertaken in accordance with this methodology.

A.2 Construction design

1. Design for all construction within the drip line of existing trees to be retained shall include tree retention as a design objective and criteria. Design should aim to minimise excavation or filling in these areas.
2. Access paths and decks close to trees shall be provided on pole-supported boardwalk rather than traditional pavement. Underground services should be thrust rather than excavated wherever possible (see A6) and foundations shall bridge major tree root zones.

A.3 The Works Arborist

1. The site owner should employ a suitably qualified Registered Arborist (the 'Works Arborist') to advise on and monitor works within the drip line or root systems of trees on adjacent property that may be affected by the works.
2. Prior to any site works commencing, a pre-commencement site meeting shall be held so that all vegetation protection measures are explained by the Works Arborist to a representative of all contractors or sub-contractors and work site supervisory staff who will be carrying out works within the drip line of all vegetation to be retained. The pre-commencement site meeting may also be attended by the relevant council arborist (or representative).

A.4 Temporary protective fencing (REFER Drawing LA.03) Temporary protective fencing shall be erected around retained trees and on the boundary of the clearance area / works site in order to protect existing trees and other vegetation which is to be retained. The works arborist shall approve the locations and detail of this fencing.

3. Fencing shall be one of the following: Orange vinyl construction fencing, chain link fencing, or snow fencing or other similar and approved fencing. All fencing shall be minimum 1.2 m high, stretched taut and supported at a maximum of 1.5 m intervals by firm driven metal T-posts or 'Waratah' posts sufficient to keep the fence upright and securely in place throughout the period of the works. Steel 'reinforcing bar' posts shall not be used. Mesh shall be attached securely to the posts with a minimum of three attachment point per post, from the site access area side of the fence.

A.5 Work under the drip line of existing trees

1. Any excavation, storage, access or other construction works within the Tree Protection Zone or under the canopy of trees to be retained shall be carried out under the supervision of the Works Arborist. All these works shall be carried out by hand and using hand held machinery unless specifically excepted by the Works Arborist.

A.6 Excavation

1. All excavation within the Tree Protection Zone or under the canopy of trees to be retained shall be kept to an absolute minimum, carried out by hand, airspade or hydrovac, and supervised by the Works Arborist. The Works Arborist may require all machinery to stop work and for further excavation to be carried out by hand at any time if they regard this as necessary to avoid excess damage to the tree.
2. Any tree roots encountered during excavation should be cleanly sawed or pruned under supervision of the Works Arborist. All roots with diameter of 35 mm or greater shall be brought immediately to the attention of the Works Arborist who shall instruct the contractor.

A.7 Machinery, storage and access

1. There shall be no passage of machinery, or emplacement of materials, equipment, fuels and oils, and spoil, within the drip line of any tree in the vicinity of the works. Where this is unavoidable access shall be under the supervision of the Works Arborist.
2. All care shall be taken to avoid striking any part of any tree with machinery during the course of the project. Any damage shall be treated according to good arboricultural practices and to the approval of the Works Arborist.

A.8 Pruning

1. Pruning of some of the trees, such as close to excavations shall be carried out prior to excavation. Pruning may also be carried out to facilitate reasonable access to the construction site. All pruning must be approved by the Works Arborist.
2. All pruning shall be carried out by a qualified arborist according to good arboricultural practices and reduce the foliage area of any tree canopy no more than 15% by the removal of selected limbs and branches, all under the direction of the Works Arborist.

APPENDIX B Pest and Weed Control Plan

SITE SPECIFIC WEED AND ANIMAL PEST MANAGEMENT PLAN FOR 70 Mountain Road, Henderson Valley.

B.1 Introduction

This Pest and Weed Management Plan (PWMP) shall cover a period of five years from the start of works on site. This period may be extended if the weed and pest control objectives have not been achieved at the end of the five year period. All areas of the property require full inspection for weed and weed management measures by a qualified and experienced ecologist and as specified below.

B.2 Weed Management

Objective

The objective of weed management is to protect existing native communities from degeneration, to enhance their ecological value, and to assist with the establishment of new areas of native vegetation. It would be unrealistic to try to remove every weed plant on a site next to a source of re-invasion from the road and residential gardens. The aim is to greatly reduce all pest plants over a period of the management plan and to generally reduce weed presence, weed seed source and weed propagation on the site. This is important for the successful protection and enhancement of local ecosystems.

With this in mind there are two main aims of the weed management program:

1. To remove all weed from existing established native vegetation on the application site in order to reduce further seeding or spread on to the site and to reduce competition with native revegetation.
2. To remove all weed species from proposed planting areas until such a time as the replacement planting can form a reasonable protection against re-establishment of weed species - i.e. until minimum 80% canopy cover is achieved.

General requirements and methods

All pest plants and other weeds including but not limited to the species listed below are to be destroyed and removed from the site. Particular attention will be paid to the removal of invasive exotic woody and herbaceous pest species so that extensive re-vegetation with native species can take place effectively.

Weeds will be removed before re-vegetation planting and follow-up weed management will tackle and remove any re-growth or missed areas of weed as specified in the table. Specific methods for managing some of the species identified on the site are set out below. If a weed discovered on site is not covered in the weed removal method section it shall be removed using a method described in the Auckland Council Pest Search here <https://www.tiakitamaki-makaurau.nz/protect-and-restore-our-environment/pests-in-auckland/pest-search/>

All work shall be carried out by trained and competent operatives with relevant experience for the work to be undertaken.

Weed Hygiene

Exercise caution to minimize spread of weeds from site to site by following standard weed hygiene procedures:

Ensure all weeds to be removed off site are contained securely and all open loads are covered.

Where cut vegetation is to be left on site, seed heads should be removed, bagged and disposed of carefully.

All clothing and protective equipment should be checked for seeds and weed fragments before being used in another area.

All equipment and machinery, including vehicles, used at a site should be checked and thoroughly cleaned before being used in another area.

Herbicide application

The site is a residential property with children present and so special care must be taken with the any use of herbicides or pesticides. Manual methods are preferable wherever possible but if the use of agrochemicals is unavoidable the greatest care must be taken to ensure treated areas are not visited for an extended period during and after application.

All herbicide application shall be in accordance with NZS 8409:2004 Management of Agrochemicals code of practice. All herbicides must be used strictly according to the manufacturer's instructions and with all safety fully observed.

- Check local territorial authority for any requirement to publicly notify intention to spray herbicides.
- Apply herbicide when the plants are actively growing. Carefully follow manufacturer's instructions and wear protective clothing.
- Do not spray in windy weather or if rain is expected in the next few hours
- Leave plants in the ground until the foliage and the roots have died off.
- Take precautions to ensure herbicide does not come in contact with non-target plants.
- Do not apply herbicide to the water or to plants emerging from the water or within 10 metres of any water body. These weeds are to be removed mechanically.

Replanting

Re-vegetating planting is to be carried out on the site including the areas where existing weed growth will be removed prior to planting. This re-vegetation planting is detailed on the planting plans (Refer Nick Robinson drawings PP.01 to PP.03) and its successful establishment forms part of the on-going weed management.

Pest plant requirements

All existing pest species as listed under the current version of the Auckland Regional Pest Management Strategy (RPMS) are to be destroyed.

The list of weed control methods below specifies:

- Methodologies of control including why these methodologies are suitable for the purpose and the environment in which they are being used.
- Any pathogens (e.g. kauri dieback, myrtle rust) present and proposed methodology for containment and/or control as appropriate.
- Timeframes for control and eradication.
- Any chemical control proposed to be used and methodologies associated with the pest control.

Strict record keeping is required of herbicides used. A monitoring report is required to be submitted to the Site Ecologist after each visit indicating weed species and coverage, treatment carried out and expected efficacy.

Advice Note

Successful pest plant control means that there are no fruiting and / or flowering individuals of weed species present within the SEA area on site and any mature weed species present are dead. In addition, there shall be no areas where weed species are smothering and / or out competing native vegetation including suppressing natural regeneration processes. Control shall be demonstrated to the satisfaction of Auckland Council.

Pest plant removal methodology

All existing pest species as listed under the current version of the Auckland Regional Pest Management Strategy (RPMS) are to be destroyed. Note: not all weed listed below will be present at all times. Any weed species not listed below are also to be removed. Refer to Auckland Council Pest Search - <https://www.tiakitamakimakaurau.nz/protect-and-restore-our-environment/pests-in-auckland/pest-search/> - for suitable methods.

This section indicates acceptable treatment options for species and follow up treatment after two months, It also specifies ongoing control: i.e. treatment after six months, twelve months, eighteen months and two years.

Araujia hortorum, moth plant.

Pull out seedlings. Hoe or dig out mature plants, removing as many roots as possible. Leave any detached vines in the host tree to wither and die. Remove any seed pods and take them to a refuse transfer station. Do not burn the pods.

For large infestations cut stems 20 cm above the ground, coat the stem and hanging ends liberally with picloram or 2,4-D + dicamba. Follow up treatment after two months:

Arundo donax, bamboo reed

Method: cut stems and dig out rhizomes. For large infestations amongst desirable broadleaf species: Cut stump and foliar spray regrowth with 150ml haloxyfop-P-methyl per 10L of water. Stems can be stacked in piles and foliar sprayed or removed to landfill.

Plant parts requiring disposal: Rhizomes and roots.

Disposal options: Stem cannot be chipped and used as mulch as it can regrow or remove to landfill.

Asparagus scandens climbing asparagus

Method: Dig out and remove and dispose of Tubers, rhizomes and seeds. Disposal options: Rot tubers, rhizomes and seeds in covered water barrel or remove to green waste or landfill.

Alternative for larger infestations: Foliar spray with 200ml glyphosate green per 10L of water. If by certified handler/experienced agrochemical user: Foliar spray with 200ml glyphosate green per 10L of water and 10ml penetrant. Do not add penetrant when spraying against tree trunks.

Follow up treatment after two and six months repeat as above.

Hedychium gardnerianum and H. flavescens: gingers

Dig out roots completely and dispose safely (foliage may be chopped and left as mulch).

Spray using metsulfuron methyl (5g/15L) with organo-silicone penetrant. Follow up treatment after two months: Repeat initial action on any ginger still showing signs of life. Dig up rhizome after specimen is dead and dispose of to the dump.

Ulex europaeus: Gorse

Cut down and dispose of dead specimens to the dump.

Spray glyphosate (1%) with organo-silicone penetrant.

Acacia spp: wattles

Dig out seedlings, Cut down and remove to dump any specimens paint stump with glyphosate (20%) Follow up treatment after two months:

Cortaderia selloana & C. jubata: pampas grass

Very difficult to remove manually without an excavator. Dig out and remove. Remove any seed heads carefully to rubbish dump.

Spray glyphosate (1%) with organo-silicone penetrant. Ensure complete wetting of foliage. Spray after flowering. Cut down and dispose of dead specimens to the dump.

Jasminum polyanthum: jasmine

Jasmine is vigorously established across much of the site and intertwined in the ground layer vegetation. This makes it virtually impracticable to remove without chemical means.

Cut down and swab stump (all year round) with metsulfuron-methyl 600g/kg (5g/L) or 2,4-D + dicamba (200ml/L). Add penetrant to all mixes. Dispose of all cut stems at a refuse transfer station, or burn or bury deeply.

Follow up treatment after two months: Spray (regrowth): glyphosate (150ml/15L) + penetrant (knapsack) or 1L/100L + penetrant (handspraygun) or metsulfuron-methyl 600g/kg (5g/10L) + penetrant (knapsack) or 40g/100L + penetrant (spraygun) or 2,4-D + dicamba (120ml/L).

Ligustrum sinense & L. lucidum. Privet

Cut down and remove to dump any specimens.

Paint stump with glyphosate (20%) or metsulfuron methyl (5g/10 litre + 10ml of organo-silicone penetrant.

Plectranthus ciliatus: ground cover plectranthus.

Dig and pull up. Dispose of at refuse transfer station, burn or bury.

Spray (all year round): glyphosate (10ml/L + penetrant) or metsulfuron-methyl 600g/kg (10g/100L + penetrant) (spraygun) or (2g/10L + penetrant) (knapsack) or triclopyr 600 EC (30ml/10L) or triclopyr 120g/L (15ml/L).

Tradescantia fluminensis: tradescantia

Rake and roll up. Best done in drought period. Work towards centre. Dispose of at a refuse transfer station, or burn or bury at least 0.3 m deep. Minimise dropped fragments. Repeat at intervals.

Spray: triclopyr 600 EC (6ml/L + penetrant) OR triclopyr 120g/L (30ml/L + penetrant) or triclopyr 300 EC (12ml/L). 90+%

Lonicera japonica: Japanese honeysuckle.

Dig out small sites (all year round). Dispose of roots and stems at a refuse transfer station, burn or bury deeply.

OR Cut stems and foliage and paint stump within 10-15 minutes of cutting. Paint cut surfaces with a liberal dose of triclopyr 600 EC (100ml/L). OR Cut and paint stump (all year round): metsulfuron-methyl 600g/kg (5 g /L) or picloram (200ml/L) or picloram gel.

Paraserianthes lophantha (syn. Albizzia lophantha): Brush wattle

Fell trees, pull up seedlings and dispose.

Solanum mauritianum: tobacco weed/woolly nightshade

Pull out young plants including roots. Cut down large shrubs and trees.

Paint stump with glyphosate at 1 part to 5 parts water plus penetrant. Ipomoea indica: morning glory

Cut down and remove twining stems from other vegetation. Paint stumps and cut stems with one of the following glyphosate 1 part per 4 parts of water. Alternatively, after cutting the vines away the remaining weed foliage rooted in the ground may be sprayed with one of the follow-

ing mixtures: glyphosate:100mls + 20mls organo-silicone penetrant per 10 litres of water 2,4-D + dicamba:120mls per 10 litres of water. Check whole site after two months, six months, twelve months, eighteen months and two years for signs of any weed regrowth or re-establishment. Any new growth to be re-treated with initial action.

B3. Animal Pest Control

The site is a residential property with children present and pets likely to visit the site from neighbouring residences. For this reason the use of pesticides is to be avoided where practicable.

Pest animals which may be present from time to time on the site include but are not limited to possums, rats, mustelids, and feral cats. where appropriate. Pest Animal Control means meeting national standards best practice methods for control of these species to an acceptable level.

Population monitoring

Populations of possums, should be monitored using various detection devices as recommended in the Bionet.NZ best practice guide *A1 Possum Population Monitoring Using the Trap-catch, Waxtag and Chewcard Methods* (available from <https://www.bionet.nz/assets/Uploads/A1-Possum-Monitoring-2020.pdf>) and by observation of browsing damage.

Trapping

Only approved bait and kill traps shall be used for all pest animals. Information on trap types that have passed formal testing is found in Bionet.NZ best practice guide *A4.2 Kill Traps: A Guideline to Trap Possums, Ferrets, Stoats and Feral Cats using Kill Traps* (available from <https://www.bionet.nz/assets/Uploads/A4.2-Kill-Traps-2020-minor-revision.pdf>)

Traps shall initial be set at a density of one trap per pest animal type on the site. They shall be set and monitored according to Bionet.NZ best practice guides and shall be checked and the lure replaced at frequent and regular intervals.

Owing to the potential for domestic cats to be trapped and given the mixed effects of feral and domestic cat hunting (their contribution to controlling rats and mice set against their predation of native birds) it is considered that trapping cats is not appropriate on this site. Exclusion fencing is not practicable due to height required (1.8m) and the site's long boundary in proportion to its area.

B4. Reporting of animal pest and weed management

All contractors performing weed and pest amangement operations shall provide a report of each site visit including:

- date
- weather
- summary of observations and any evidence of weed and pest infestation
- time spent on site
- herbicides, pesticides and other agrichemicals used
- protective measures taken when using agrichemicals.

APPENDIX C Requirements for Lizard Management

Prior to the commencement of any vegetation removal works the Consent Holder shall submit a detailed Lizard Management Plan (LMP) prepared by a suitably qualified and experienced ecologist/herpetologist to Auckland Council for certification. The LMP shall include:

1. The population of each species of native lizard present on the site is to be maintained or enhanced, and
2. The habitats on the site, post-development, that will support viable lizard populations for all species present pre-development.
3. Timing of the implementation of the LMP: Lizard rescue is to be undertaken in close conjunction with the vegetation clearance operations (on the same day) for an integrated approach, to allow the physical search for gecko's immediately after felling of trees and shrubs and to rescue skinks from ground cover vegetation and terrestrial retreats.
4. A methodology for survey, trapping and relocation of lizards rescued including: salvage protocols, relocation protocols, nocturnal and diurnal capture protocols, supervised habitat clearance/transfer protocols; artificial cover object protocols, and opportunistic relocation protocols.
5. A description of the relocation site; including:
 - a) provision for additional refugia, if required e.g. depositing salvaged logs, wood particles or debris for newly released skinks that have been rescued;
 - b) protection mechanisms (if required) to ensure the relocation site is maintained;
 - c) any weed and pest management to ensure the relocation site is maintained as appropriate habitat.
6. Monitoring methods, including baseline surveying within the site; baseline surveys outside the site to identify potential release sites for salvaged lizard populations and lizard monitoring sites, ongoing annual surveys to evaluate translocation success, pre and post – translocation surveys' and monitoring of effectiveness of pest control and/or any potential adverse effects on lizards associated with pest control;
7. A post-vegetation clearance search for remaining lizards.
8. Upon completion, all findings resulting from the implementation of the Lizard Search and Rescue shall be recorded by a suitably qualified and experienced ecologist/herpetologist acceptable to council on an Amphibian/Reptile Distribution Scheme (ARDS) Card (or similar form that provides the same information) which must be sent to Auckland Council for approval within two weeks of completion of the vegetation clearance works.

APPENDIX D Avifauna Management Plan

Prior to the commencement of any vegetation removal works the Consent Holder shall submit a detailed Avifauna Management Plan (AMP) prepared by a suitably qualified and experienced ecologist/ornithologist to Auckland Council for certification. The AMP shall include:

1. The populations of each species of native bird present on the site.
2. Confirmation of how the habitats on the site post-development will support viable bird populations for all species present pre-development.
3. Specification of timing and methodology for all clearance and felling to ensure the following requirements:
 - All vegetation clearance shall occur outside the main native bird nesting season, which is from the beginning of September to the end of February. This will minimise the impact that vegetation removal would have on nesting birds.
 - If vegetation clearance is unavoidable during the main native bird breeding season this must be approved and verified in writing by Council's Compliance Monitoring Team Leader. An approved and experienced ecologist or ornithologist shall visually inspect all trees and shrubs proposed for removal within 24 hours of felling to identify any active nests. This includes checking cavities and hollows for nesting birds (e.g. morepork, kingfisher). Should any nesting be observed works must be stopped and a 10 metre buffer shall be observed around the vegetation containing the nest. Works can restart in this buffer area only when confirmation of absence of nesting birds is given by a suitably qualified ecologist or ornithologist.
4. Upon completion, the ornithologist shall prepare a report of the implementation of the Avifauna Management Plan which must be sent to Auckland Council for verification within two weeks of completion of the vegetation clearance works.

Decision on an application for resource consent under the Resource Management Act 1991



Restricted discretionary activity

Application number(s): LUC60405766 (s9 land use consent)
Applicant: Patrick Norton
Site address: 70 Mountain Road, Henderson Valley
Legal description: Lot 27 DP 20694

Proposal:

To establish a new dwelling on the site. The dwelling will have a footprint of 115.9m² and be two storeys in height. The proposal requires SEA vegetation removal of 298m² and the establishment of an on-site wastewater treatment plant. Some minor earthworks is required to establish the building platform, covering an area of 136.25m² and a volume of 81.6m³. The applicant has proposed 437m² of new planting and pest plant control across the site.

Resource consent is required for the following reasons:

Land use consent (s9) – LUC60405766

Auckland Unitary Plan (Operative in part)

Regional land use (operative plan provisions)

Vegetation Management and Biodiversity

- To undertake vegetation alteration and removal for a building platform and accessway for one dwelling within an SEA overlay is a controlled activity under rule E15.4.2(A29).

Land Disturbance - Regional

- To undertake general earthworks of 136.25m² and 81.6m³, as the earthworks are greater than 5m² and 5m³ in an SEA overlay, is a restricted discretionary activity under rules E12.4.1(A28) and (A30) respectively.

Decision

I have read the application, supporting documents, and the report and recommendations on the application for resource consent. I am satisfied that I have adequate information to consider the matters required by the Resource Management Act 1991 (RMA) and make a decision under delegated authority on the application.

Acting under delegated authority, under sections 104, 104C, and Part 2 of the RMA, the resource consent is **GRANTED**.

Report for an application for resource consent under the Resource Management Act 1991



Restricted discretionary activity

1. Application description

Application number(s): LUC60405766 (s9 land use consent)
Applicant: Patrick Norton
Site address: 70 Mountain Road, Henderson Valley
Legal description: Lot 27 DP 20694
Site area: 1905m²

Auckland Unitary Plan (Operative in part)

Zoning and precinct: Rural - Waitakere Ranges Zone

Overlays, controls, special features, designations, etc:

Overlays:

Natural Resources: Significant Ecological Areas Overlay - SEA_T_5539, Terrestrial

Natural Heritage: Outstanding Natural Landscapes Overlay [rcp/dp] - Area 73, Waitakere Ranges and coastline

Natural Heritage: Waitakere Ranges Heritage Area Overlay - WRHA_03, Subdivision Schedule

Natural Heritage: Waitakere Ranges Heritage Area Overlay - Extent of Overlay

Controls:

Macroinvertebrate Community Index - Native

2. Locality Plan



Source: Auckland Council GIS

3. The proposal, site and locality description

Proposal

The applicant proposes to establish a new dwelling on the site. The dwelling will have a footprint of 115.9m² and be two storeys in height. The proposal requires SEA vegetation removal of 298m² and the establishment of an on-site wastewater treatment plant. Some minor earthworks is required to establish the building platform, covering an area of 136.25m² and a volume of 81.6m³. The applicant has proposed 437m² of new planting and pest plant control across the site.

Site and surrounding environment description

Liz Stewart of Elizabeth Stewart Planning has provided a description of the proposal and subject site on pages 5-8 of the Assessment of Environmental Effects (AEE) titled: Assessment of Effects for a new dwelling at 70 Mountain Road Henderson Valley, dated 13 July 2022.

Having undertaken a site visit on 3 August 2022, I concur with that description of the proposal and the site and provide the following additional comments.

The understorey of the subject site is for the most part dominated by exotic weed species as is the area around and downslope of the old house site.

4. Background

Specialist Input

The proposal has been reviewed and assessed by the following specialists:

- Bridget Kelly – Stormwater Specialist
- Glenn Pope – Regional Earthworks Consultant
- Millie Ahlstrom – Ecologist
- Gavin Donaldson – Arborist
- Bernard Liew & Gurjap Singh – Development Engineer
- Richard Simonds – Groundwater
- Karamjeet Singh Saini – Wastewater Specialist

Underlying consents/garage

No new vehicle crossing is proposed, and the existing vehicle crossing will remain. There is an existing garage on the site and the applicant has not demonstrated that existing use rights apply or that it has been lawfully established. This consent does not consider the garage as part of the application.

It is also noted that reverse manoeuvring from the garage is required over the neighbouring property and no easements are in place to allow this to occur. This is considered a civil matter between the applicant and the owners of 102 Mountain Road as the Plan does not require reverse manoeuvring.

Unconsented disused dwelling

The site contains the remnants of an unconsented dwelling which was previously subject to Council compliance for removal. After visiting the site, I am satisfied that the dwelling is not habitable and therefore cannot be considered to be a dwelling in the context of the receiving environment.

Vegetation clearance/Pedestrian access to dwelling

It is noted that access to the dwelling from the garage is proposed via the use of an existing path which was used to access the unlawful dwelling and is largely overgrown and poorly formed. The applicant has not considered this access in the proposed vegetation removal and there is no existing lawful structure, therefore no permitted clearance standards apply. Any proposed upgrade to this path will need to comply with AUP(OP) chapter E15, specifically, earthworks within protected root zones and vegetation alteration and removal.

Similarly, vegetation clearance to the rear deck has not provided a construction buffer to enable construction. The applicant has proposed to undertake construction of the deck from within the proposed building platform.

Wastewater

The wastewater proposal has been reviewed by Karamjeet Singh Saini who has determined that the wastewater treatment system proposed to serve the dwelling is OSET trialled and separation distances are in accordance with Auckland Council TP58 recommendations. The loading rate proposed for the effluent disposal and flow allowance per person considered for the wastewater design is acceptable and within the recommended range of Auckland Council TP58 and the disposal field is in a slope less than 25 degree as per the site plan. Due to the above, the proposed wastewater treatment system has been determined to meet the permitted activity criteria of E5.6.2(A1) and meets the TP58 standards providing it is undertaken in accordance with the report and plans provided.

Groundwater

The new dwelling requires excavations are required to a maximum depth of 2.2m to create a building platform. Geoconsult has undertaken boreholes and groundwater level monitoring in the vicinity of the dwelling footprint. The ground conditions encountered were topsoil to a maximum depth of 0.2mbgl overlying residual soils of the Cornwallis Formation (ECBF) described as: “stiff to very stiff orange brown and pink silts and clays with shear vane strengths generally greater than 90 kPa.”

No groundwater was encountered on the day of augering HA1 to HA4 and no groundwater was encountered in the standpipe piezometer on 22nd and 29th July 2021 i.e in winter.

The results of the augering have been reviewed by Richard Simonds who considers that the proposal is a Permitted Activity when assessed against AUP Standards E7.6.1.6 & E7.6.1.10 and a consent for dewatering and groundwater diversion is not required.

Stormwater

The proposal has also been assessed by Bridget Kelly for stormwater matters. Ms Kelly has confirmed that the applicant has demonstrated compliance with the permitted activity standards of E8.4.1(A7) for the diversion and discharge of stormwater runoff from impervious areas up to 5,000m² outside an urban area.

The applicant has satisfactorily demonstrated that the proposal meets the permitted activity criteria for wastewater, stormwater and groundwater, therefore these matters will not be assessment further in this report.

Iwi comment on proposal

Iwi comment on the proposal was invited from the following iwi groups on 11 August 2022.

- Ngāti Te Ata Waiohua

- Ngāti Whātua o Kaipara
- Ngāti Whātua Ōrākei
- Te Ākitai Waiohūa
- Te Kawerau Ā Maki
- Te Rūnanga o Ngāti Whātua
- Waikato – Tainui

Only one response was received, and this was from Edward Ashby, spokesperson for Te Kawerau a Maki. Mr Ashby raised concerns that the applicant did not engage with mana whenua early enough in the process. Mr Ashby was not opposed to the development but wished for engagement to assist the applicant to “*navigate the tikanga of this space*”.

Ms Stewart contacted Mr Ashby offering a meeting, however Mr Ashby declined but wished to note a concern regarding the controlled activity status of the vegetation removal but did not oppose the development providing kauri dieback protocols were in place and mitigation for SEA loss and pest control was implemented. Ms Stewart confirmed that these matters would be included in the application. Accordingly, I conclude that mana whenua matters have been sufficiently addressed.

5. Reasons for the application

Resource consent is required for the following reasons:

Land use consent (s9) – LUC60405766

Auckland Unitary Plan (Operative in part)

Regional land use (operative plan provisions)

Vegetation Management and Biodiversity

- To undertake vegetation alteration and removal for a building platform and accessway for one dwelling within an SEA overlay is a **controlled** activity under rule E15.4.2(A29).

Land Disturbance - Regional

- To undertake general earthworks of 136.25m² and 81.6m³, as the earthworks are greater than 5m² and 5m³ in an SEA overlay, is a **restricted discretionary** activity under rules E12.4.1(A28) and (A30) respectively.

The reasons for consent are considered together as a **restricted discretionary** activity overall.

6. Public notification assessment (sections 95A, 95C-95D)

Section 95A specifies the steps the council is to follow to determine whether an application is to be publicly notified. These steps are addressed in the statutory order below.

Step 1: mandatory public notification in certain circumstances

No mandatory notification is required as:

- the applicant has not requested that the application is publicly notified (s95A(3)(a));
- there are no outstanding or refused requests for further information (s95C and s95A(3)(b)); and
- the application does not involve any exchange of recreation reserve land under s15AA of the Reserves Act 1977 (s95A(3)(c)).

Step 2: if not required by step 1, public notification precluded in certain circumstances

The application is not precluded from public notification as:

- the activities are not subject to a rule or national environmental standard (NES) which precludes public notification (s95A(5)(a)); and
- the application does not exclusively involve one or more of the activities described in s95A(5)(b).

Step 3: if not precluded by step 2, public notification required in certain circumstances

The application is not required to be publicly notified as the activities are not subject to any rule or a NES that requires public notification (s95A(8)(a)).

The following assessment addresses the adverse effects of the activities on the environment, as public notification is required if the activities will have or are likely to have adverse effects on the environment that are more than minor (s95A(8)(b)).

Only those effects that relate to matters that are within the council's discretion under the rules are considered in this assessment. These matters are:

- E15.7.1 Matters of control
- E12.8.1 Matters of discretion

No other effects have been taken into account in this assessment.

Adverse effects assessment (sections 95A(8)(b) and 95D)

The consultant has provided, in accordance with schedule 4 of the RMA, an assessment of adverse environmental effects in such detail as corresponds with the scale and significance of the effects that the activities may have on the environment. This can be found on pages 9-13 of the AEE.

I concur with this assessment.

The AEE concludes that:

- The permitted baseline is one dwelling per site up to 8m in height and a built coverage of 10% of the net site area or 300m² whichever is the lesser and earthworks up to 5m³ over an

area of 5m² within an SEA overlay. The permitted baseline is relevant in terms of the effects of the dwelling, where only the vegetation removal and earthworks are able to be considered, not the dwelling itself.

- The receiving environment is discussed in Section 2.0 of the AEE. Key features of this existing environment include the established residential neighbourhood with existing dwellings on all sites surrounding, located mostly towards the road frontage, surrounded by native bush.
- Land adjacent to the subject site is identified as 68, 74 & 102 Mountain Road. No written approvals have been sought.
- In respect of the vegetation removal E15.5 states that any application for a controlled activity listed in Table E15.4.4 will be considered without public notification or limited notification or the need to obtain written approval from affected parties unless Council decides there are special circumstances.

Rural Character and Amenity

- The proposed new dwelling is largely a permitted activity, with the design of the dwelling fully complying with all standards, and is provided for under this zone. The location of the proposed dwelling will be in character with the surrounding area, where most other dwellings are located closer to the road, and surrounded by native bush.

Earthworks and Temporary Effects of Construction

- The level of earthworks required is within the permitted standards for the zone and is limited to the proposed new building platform area. However it does trigger the regional reasons for consent due to being within the SEA area. This cannot be avoided given the majority of the site is covered in SEA, and given that a residential dwelling is permitted to be established, earthworks are necessary. The earthworks will be carried out in a single stage, and being closer to the road, and sediment or silt runoff affecting the SEA land will be limited.
- The site is not identified as subject to instability, however due to the steep slopes a Geotech report has been commissioned. All recommendations in the report will be followed by the applicant. Overall the report does not identify any specific stability issues and further has confirmed that the proposed earthworks do not result in any groundwater changes, and confirms the proposal meets the permitted standards under E7.
- All earthworks will be managed on site, with silt fencing and methodologies to comply with GD05 standards, and protect the remaining SEA land. All cuts will be retained immediately to manage any stability effects, in accordance with the recommendations of the Geotech report.
- This level of earthworks is very temporary in terms of timing, and we expect that all effects of construction traffic and construction noise will be managed to meet acceptable standards and avoid adverse effects on persons. The works are temporary during the earthworks and following construction, and within the permitted standards, hence any effects will be within the permitted baseline.
- The AEE concludes that any effects on the environment will be contained within the site, and any effects persons on adjacent land will not be adversely affected by the proposal in terms of any earthworks or temporary construction effects.

Vegetation Management effects

- The proposed clearance of vegetation is confined to only the building platform and small surrounds, in order to reduce any effects on the wider bush area. The location of the building

is close to the road frontage to ensure construction is practical, and wont impact on the rest of the bush on the site. The only other alternative area for building would be in the location of the previous building, however this is at the far end of the site, and would require construction traffic to be able to get to this area, which would have the potential to damage vegetation beyond a building platform area.

- Given the provision of a single dwelling is a permitted activity, with an expectation that some clearance can be achieved to allow for residential use of the site, it is considered that the proposal meets with the intentions of the zone and overlay provisions, with effects on the wider SEA being less than minor.
- An arboricultural report has been provided which identifies that the majority of the area is in native bush with little exotic weed infestation. The SEA overlay covers the majority of the site, however, it does have gaps as shown in the overlay above, including an area where the previous building was located. This area will ultimately be revegetated over time, effectively replacing the proposed vegetation that is required to be removed, and thereby mitigating any loss of native vegetation over time.

Overall, I agree with the AEE with the exception of the last point for the following reasons;

- The site is heavily weed infested as identified by Councils Ecologist Millie Ahlstrom. The applicant has now provided an ecological report which has confirmed the site contains many areas which are weed infested. Plans have been provided which shows where weed control and planting will be undertaken. An area of 437m² at the top of the site has been proposed to be replanted with eco-sourced native plants.

Step 4: public notification in special circumstances

If an application has not been publicly notified as a result of any of the previous steps, then the council is required to determine whether special circumstances exist that warrant it being publicly notified (s95A(9)).

Special circumstances are those that are:

- Exceptional, abnormal or unusual, but something less than extraordinary or unique;
- outside of the common run of applications of this nature; or
- circumstances which make notification desirable, notwithstanding the conclusion that the activities will not have adverse effects on the environment that are more than minor.

In this instance I have turned my mind specifically to the existence of any special circumstances and conclude that there is nothing exceptional or unusual about the application, and that the proposal has nothing out of the ordinary run of things to suggest that public notification should occur.

Public notification conclusion

Having undertaken the s95A public notification tests, the following conclusions are reached:

- Under step 1, public notification is not mandatory.
- Under step 2, there is no rule or NES that specifically precludes public notification of the activities, and the application is for activities other than those specified in s95A(5)(b).

- Under step 3, public notification is not required as the application is for activities that are not subject to a rule that specifically requires it, and it is considered that the activities will not have adverse effects on the environment that are more than minor.
- Under step 4, there are no special circumstances that warrant the application being publicly notified.

It is therefore recommended that this application be processed without public notification.

7. Limited notification assessment (sections 95B, 95E-95G)

If the application is not publicly notified under s95A, the council must follow the steps set out in s95B to determine whether to limited notify the application. These steps are addressed in the statutory order below.

Step 1: certain affected protected customary rights groups must be notified

There are no protected customary rights groups or customary marine title groups affected by the proposed activities (s95B(2)).

In addition, the council must determine whether the proposed activities are on or adjacent to, or may affect, land that is subject of a statutory acknowledgement under schedule 11, and whether the person to whom the statutory acknowledgement is made is an affected person (s95B(3)).

Within the Auckland region the following statutory acknowledgements are relevant:

- Te Uri o Hau Claims Settlement Act 2002
- Ngāti Manuhiri Claims Settlement Act 2012
- Ngāti Whātua Ōrākei Claims Settlement Act 2012
- Ngāti Whātua o Kaipara Claims Settlement Act 2013
- Te Kawerau ā Maki Claims Settlement Act 2015
- Ngāti Tamaoho Claims Settlement Act 2018
- Ngāi Tai Ki Tāmaki Claims Settlement Act 2018

In this instance, the proposal will occur on land that is subject to a statutory acknowledgement, associated with Te Kawerau a Maki. Their statement of association is based on the significance of the streams and tributaries in the area, and in particular on recognising and safeguarding the quality and cultural significance of the Opanuku Stream. The proposal will not result in adversely affected persons in this regard as a range of earthworks and stormwater controls are being proposed to ensure that sedimentation and scour of the downstream catchment does not occur. In addition, Te Kawerau a Maki have been consulted and have not raised any issues in this regard.

Step 2: if not required by step 1, limited notification precluded in certain circumstances

The application is not precluded from limited notification as:

- the application is not for one or more activities that are exclusively subject to a rule or NES which preclude limited notification (s95B(6)(a)); and
- the application is not exclusively for a controlled activity, other than a subdivision, that requires consent under a district plan (s95B(6)(b)).

Step 3: if not precluded by step 2, certain other affected persons must be notified

As this application is not for a boundary activity, there are no affected persons related to that type of activity (s95B(7)).

The following assessment addresses whether there are any affected persons that the application is required to be limited notified to (s95B(8)).

In determining whether a person is an affected person:

- a person is affected if adverse effects on that person are minor or more than minor (but not less than minor);
- adverse effects permitted by a rule in a plan or NES (the permitted baseline) may be disregarded;
- the adverse effects on those persons who have provided their written approval must be disregarded; and
- as a restricted discretionary activity, only those effects that fall within the matters of discretion restricted under the plan can be considered. These matters are listed in the public notification assessment section of this report.

Adversely affected persons assessment (sections 95B(8) and 95E)

No persons are considered to be adversely affected by the proposal because:

- Suitable erosion and sediment controls will be imposed to ensure that all sediment laden waters are contained to site and adverse effects from the onsite activity can be mitigated and contained within the actual site works area.
- Earthworks and construction activity will be undertaken as quickly as possible to minimise disturbance for adjacent persons. In this respect, noise, vibration will be compliant with relevant standards under E25, and sediment and dust will be appropriately managed.
- The development can be served by the reticulated network for potable water and on-site wastewater. Stormwater will direct to a dual-purpose tank 2.64m³ (retention 0.66m³, detention 1.98m³) and discharge to a riprap outlet to the roadside swale. The flowrate is mitigated to predevelopment level for 10%. In this respect, servicing the subject site will not generate any off-site adverse effects to persons at adjacent sites.

Step 4: further notification in special circumstances

In addition to the findings of the previous steps, the council is also required to determine whether special circumstances exist in relation to the application that warrants it being notified to any other persons not already determined as eligible for limited notification (excluding persons assessed under section 95E as not being affected persons).

Special circumstances are those that are:

- Exceptional, abnormal or unusual, but something less than extraordinary or unique;
- outside of the common run of applications of this nature; or
- circumstances which make limited notification to any other person desirable, notwithstanding the conclusion that no other person has been considered eligible.

In this instance I have turned my mind specifically to the existence of any special circumstances under s95B(10) and conclude that there is nothing exceptional or unusual about the application, and that the proposal has nothing out of the ordinary run of things to suggest that notification to any other persons should occur.

Limited notification conclusion

Having undertaken the s95B limited notification tests, the following conclusions are reached:

- Under step 1, limited notification is not mandatory.
- Under step 2, there is no rule or NES that specifically precludes limited notification of the activities, and the application is for activities other than those specified in s95B(6)(b).
- Under step 3, limited notification is not required as it is considered that the activities will not result in any adversely affected persons.
- Under step 4, there are no special circumstances that warrant the application being limited notified to any other persons.

It is therefore recommended that this application be processed without limited notification.

8. Notification recommendation

Non-notification

For the above reasons under section 95A this application may be processed without public notification.

In addition, under section 95B, limited notification is not required.

Accordingly, I recommend that this application is processed non-notified.



Mimouk Hannan
Senior Planner
Resource Consents

Date: 20 February 2023

9. Notification determination

Acting under delegated authority, and for the reasons set out in the above assessment and recommendation, under sections 95A and 95C to 95D, and 95B and 95E to 95G of the RMA this application shall be processed non-notified.

A handwritten signature in black ink, appearing to be 'KH' followed by a wavy line.

Kate Hunter
Team Leader
Resource Consents

Date: 28 February 2023

Decision on an application for resource consent under the Resource Management Act 1991



Restricted discretionary activity

Application number(s): LUC60405766 (s9 land use consent)
Applicant: Patrick Norton
Site address: 70 Mountain Road, Henderson Valley
Legal description: Lot 27 DP 20694

Proposal:

To establish a new dwelling on the site. The dwelling will have a footprint of 115.9m² and be two storeys in height. The proposal requires SEA vegetation removal of 298m² and the establishment of an on-site wastewater treatment plant. Some minor earthworks is required to establish the building platform, covering an area of 136.25m² and a volume of 81.6m³. The applicant has proposed 437m² of new planting and pest plant control across the site.

Resource consent is required for the following reasons:

Land use consent (s9) – LUC60405766

Auckland Unitary Plan (Operative in part)

Regional land use (operative plan provisions)

Vegetation Management and Biodiversity

- To undertake vegetation alteration and removal for a building platform and accessway for one dwelling within an SEA overlay is a controlled activity under rule E15.4.2(A29).

Land Disturbance - Regional

- To undertake general earthworks of 136.25m² and 81.6m³, as the earthworks are greater than 5m² and 5m³ in an SEA overlay, is a restricted discretionary activity under rules E12.4.1(A28) and (A30) respectively.

Decision

I have read the application, supporting documents, and the report and recommendations on the application for resource consent. I am satisfied that I have adequate information to consider the matters required by the Resource Management Act 1991 (RMA) and make a decision under delegated authority on the application.

Acting under delegated authority, under sections 104, 104C, and Part 2 of the RMA, the resource consent is **GRANTED**.

Reasons

The reasons for this decision are:

1. The application is for restricted discretionary resource consent, and as such under s104A and s104C only those matters over which council has restricted its discretion or control have been considered. Those matters are:
 - E15.7.1 Matters of control
 - E12.8.1 Matters of discretion
2. In accordance with an assessment under ss104(1)(a) and (ab) of the RMA, the actual and potential effects from the proposal will be acceptable as:
 - a. The applicant has proposed that a lizard management plan be provided as a condition of consent to reduce any damage or injury to any lizards that may be present on-site during vegetation removal. Council ecologist Millie Ahlstrom has reviewed the proposal and agrees with this approach. Therefore provision of a lizard management plan is included as a condition of consent.
 - b. The applicant has also proposed to carry out vegetation clearance outside of the native bird breeding season, to avoid any disruption or damage to any nests or birds that may be nesting. Ms Ahlstrom also agrees with this approach, and has included this as a recommended condition of consent.
 - c. The effects of vegetation removal potentially include edge effects as a new forest edge will be created from removing the proposed vegetation to construct the new dwelling. In addition to the above, the applicant has proposed mitigation planting and pest plant control. The applicant has proposed to plant 229m² of indigenous planting around the new dwelling to reduce any edge effects that are likely to arise with the removal of the existing vegetation. This edge planting will help to decrease some of the effects of these edge effects, and the proposed pest plant control will also help to achieve this.
 - d. While the proposed planting above will help to reduce the effects of edge effects, the planting immediately abuts the house and is low in height, therefore it does not suitably mitigate the loss of mature SEA vegetation. The applicant has therefore proposed to include some planting to the rear of the site, where they are proposing pest plant removal in the large areas of giant reed and bamboo infestations noted as Area F on the approved plans. This planting will include 437m² of revegetation planting to create a canopy and therefore shade out several pest plant species and thus avoid pest plants growing back as soon as they have been removed. The plant species that they have proposed to plant in this area are not large canopy species, however as there is a large seed source in the area, it is likely that if this area is kept free of pest plants, additional canopy species can seed into this area. This area is also proposed to be protected in perpetuity by way of covenant. The proposed planting and associated covenant is considered to suitably mitigate the loss of SEA vegetation removal.
 - e. As well as these methods of mitigation, the applicant has proposed to erect temporary fencing around the areas of SEA that are to be retained during construction, as to prevent damage to this remaining bush. I have therefore also included this as a condition of consent as I agree with this approach.

- f. Control measures will be installed and maintained as per GD05 guidelines, and the earthworks operations are undertaken during drier seasons, then adverse effects from the onsite activity can be mitigated and contained within the actual site works area only. The control measures are proposed to be monitored and inspected after a significant rain event to maintain their function.
 - g. There is no public stormwater network available for the subject site. It is proposed that the stormwater will direct to a dual-purpose tank 2.64m³ (retention .66m³, detention 1.98m³) and discharge to a riprap outlet to the roadside swale. This can be supported and has gone through review with Healthy Waters. The flowrate is mitigated to predevelopment level for 10%.
 - h. The proposed wastewater treatment system has been determined to meet the permitted activity criteria of E5.6.2(A1) and meets the TP58 standards providing it is undertaken in accordance with the report and plans provided. Therefore it is considered that the wastewater system is acceptable.
 - i. In terms of positive effects, the proposal will provide for the cultural, social and financial needs of the consent holder.
 - j. With reference to s104(1)(ab), there are no specific offsetting or environmental compensation measures proposed or agreed to by the applicant to ensure positive effects on the environment and/or within the relevant matters of discretion.
3. In accordance with an assessment under s104(1)(b) of the RMA the proposal is consistent with the relevant statutory documents, insofar as they relate to the matters over which discretion is restricted. In particular;

E15 Vegetation Management and biodiversity Objectives and Policies

The proposal is considered to meet the objectives and policies of this chapter as the proposal allows for appropriate development and use of the site while also protecting, restoring and enhancing areas where ecological values are degraded. Specifically the applicant has proposed pest plant control and planting as well as the covenanting of an area of native vegetation which is outside of the SEA.

E12 Land disturbance – District Objectives and Policies

The proposal is considered to be consistent with the objectives and policies under this chapter, in particular; a Geotechnical Report has been provided and the development will be undertaken according to the recommendations in this report. Mana Whenua has been consulted and the recommendations received have been incorporated into the proposal, specifically mitigation for SEA loss and Kauri Dieback protocols.

- 4. As a restricted discretionary activity, the other matters that can be considered under s104(1)(c) of the RMA must relate to the matters of discretion restricted under the plan. In this case no other matters are considered relevant.
- 5. In the context of this restricted discretionary activity application for land use, where the relevant objectives and policies and other relevant provisions in the relevant statutory documents were prepared having regard to Part 2 of the RMA, they capture all relevant planning considerations and contain a coherent set of policies designed to achieve clear

environmental outcomes. They also provide a clear framework for assessing all relevant potential effects and there is no need to go beyond these provisions and look to Part 2 in making this decision as an assessment against Part 2 would not add anything to the evaluative exercise.

6. Overall, the proposal is considered acceptable based on the assessment above.

Conditions

Under sections 108 and 108AA of the RMA, this consent is subject to the following conditions:

1. This consent must be carried out in accordance with the documents and drawings and all supporting additional information submitted with the application, detailed below, and all referenced by the council as resource consent number LUC60405766.
 - Application Form and Assessment of Environmental Effects prepared by Liz Stewart, dated 13 July 2022.

Report title and reference	Author	Rev	Dated
Arboricultural report	Tree Management Solutions		22 April 2022
Flood Report for 70 Mountain Road, Henderson Valley	CBA Consultants		25 Jan 2022
Onsite Wastewater Disposal Report	CBA Consultants		Jan 2022
Geotechnical Investigation Report Ref GE305.1	Geoconsult		3 Aug 2021
Ecological Assessment	Nick Robinson		14 Dec 22

Drawing title and reference	Author	Rev	Dated
Site Plan A1-2	Quantum Construction	Checker	11/12/22
Proposed Site Plan A1-3	Quantum Construction	Ecology	11/12/22
Proposed Site Plan A1.4	Quantum Construction	Checker	11/12/22
Site Drainage Plan/Manoeuvring A1-5	Quantum Construction	Checker	11/12/22
Proposed Floor Plans A1-6	Quantum Construction	Checker	11/12/22
Cut-Fill Detail A1-4	Quantum Construction	Checker	11/12/22
Proposed Drainage & Overland Flow Path Site Plan	CBA Consultants	A	18/1/22
Vegetation Zones overlaid on existing site survey EA-01	Nick Robinson	-	14/11/22

Proposed Site Plan and clearance over vegetation zones EA.02	Nick Robinson	-	14/11/22
Planting Plan for SEA enhancement PP.01	Nick Robinson	B	3/2/23
Establishment Schedule and specification PP.02	Nick Robinson	-	15/11/22
Planting Plan – Zone F PP.03	Nick Robinson	A	3/2/23
Topographical Plan	Kiwi Vision Consultants	-	26/10/22
Other additional information	Author	Rev	Dated
S92 response	Liz Stewart	-	14/12/22

Advice Note:

The engineering assessment of this resource consent is limited to an effects-based assessment allowed by the Unitary Plan. Plans approved under Resource Consent do not constitute an Engineering Plan Approval. A separate engineering approval will be required for the design of any infrastructure that is to vest in council.

2. Under section 125 of the RMA, this consent lapses five years after the date it is granted unless:
 - a. The consent is given effect to; or
 - b. The council extends the period after which the consent lapses.
3. The consent holder must pay the council an initial consent compliance monitoring charge of \$ 696 (inclusive of GST), plus any further monitoring charge or charges to recover the actual and reasonable costs incurred to ensure compliance with the conditions attached to this consent.

Advice note:

The initial monitoring deposit is to cover the cost of inspecting the site, carrying out tests, reviewing conditions, updating files, etc., all being work to ensure compliance with the resource consent(s). In order to recover actual and reasonable costs, monitoring of conditions, in excess of those covered by the deposit, should be charged at the relevant hourly rate applicable at the time. The consent holder will be advised of the further monitoring charge. Only after all conditions of the resource consent(s) have been met, will the council issue a letter confirming compliance on request of the consent holder.

Duration of consent

4. The regional earthworks component of LUC60405766 must expire five (5) years from the date it has been granted unless it has been surrendered or cancelled at an earlier date pursuant to the RMA.

Pre-commencement

5. Prior to the commencement of the earthwork's activity, the consent holder must hold a pre-start meeting that:
 - a) is located on the subject site;
 - b) is scheduled not less than five days before the anticipated commencement of earthworks;
 - c) includes Auckland Council Compliance Monitoring officer[s]; and
 - d) includes representation from the contractors who will undertake the works.

The meeting must discuss the erosion and sediment control measures, the earthworks methodology and must ensure all relevant parties are aware of and familiar with the necessary conditions of this consent.

The following information must be made available at the pre-start meeting:

- Timeframes for key stages of the works authorised under this consent;
- Resource consent conditions; and
- Erosion and Sediment Control Plan.

Advice Note:

To arrange the pre-start meeting required by conditions of consent please contact the Council. The conditions of consent should be discussed at this meeting. All additional information required by the Council should be provided 2 days prior to the meeting.

6. Prior to the commencement of earthworks activity, all required erosion and sediment control measures on the subject site shall be constructed and carried out in accordance with the application information and Auckland Council's Guidance Document 05 – Erosion and Sediment Control Guide for Land Disturbing Activities in the Auckland Region (GD05).
7. Prior to commencement of tree/vegetation clearance works for the development footprint a meeting must be arranged by the consent holder between the consent holder's arborist ("works arborist", a suitably competent and professional arborist, engaged by the consent holder, who can effectively manage site works around protected trees) and the site/project manager.
 - The aim of this meeting is to explain the tree protection matters to the project manager and/or work site supervisory staff who are carrying out any works associated with the project within the vicinity of protected vegetation within the subject site. Items to be discussed at this meeting must include:
 - a. Confirmation of the clearance footprint within the site and confirmation of the clearance methodology, being mindful that retained vegetation is to remain undamaged by clearance works;

- b. the general methodology for undertaking any works within or adjacent to the development footprint including confirmation of any construction methodologies within or close to adjacent vegetation and any service installation works to the north of the development footprint.
- c. location and type of tree and root protection measures that must be applied onsite.
- d. the restrictions on machinery and vehicle access, operations and manoeuvring within or close to root zone areas; and
- e. restrictions on areas available for storing materials, equipment, and spoil.

Protection fencing

8. A tree protection fence of sturdy construction must be erected at a minimum distance of 1m from the outside edge of the canopy spread of the tree/s to be protected on the site. The fence must accord with the minimum requirements in the industry best practice publication titled A Guideline for Tree Protection Fencing on Development Sites published by the New Zealand Arboricultural Association dated April 2011. The fence must be erected prior to the commencement of any work on the site, including site earth works and must remain in place until the completion of all works on the site.

The purpose of the fence is to protect the trees from the effects of earthworks, including excavation, overfilling and construction works on the site. No work must be carried out within the protected area and no building or fill materials must be stored or placed within the protected area, either on a temporary or permanent basis.

Advice note:

A high visibility mesh fence which is not resistant to impact and is easily breached will not generally be an appropriate means of complying with this condition.

Earthworks

9. All earthworks must be managed to minimise any discharge of debris, soil, silt, sediment or sediment-laden water beyond the subject site to either land, stormwater drainage systems, watercourses or receiving waters. In the event that a discharge occurs, works must cease immediately, and the discharge must be mitigated and/or rectified to the satisfaction of the Council.
10. Earthworks must be managed to avoid deposition of earth, mud, dirt or other debris on any public road or footpath resulting from earthworks activity on the subject site. In the event that such deposition does occur, it must immediately be removed. In no instance must roads or footpaths be washed down with water without appropriate erosion and sediment control measures in place to prevent contamination of the stormwater drainage system, watercourses or receiving waters.

Advice Note:

In order to prevent sediment laden water entering waterways from the road, the following methods may be adopted to prevent or address discharges should they occur:

- *provision of a stabilised entry and exit(s) point for vehicles*
- *provision of wheel wash facilities*
- *ceasing of vehicle movement until materials are removed*
- *cleaning of road surfaces using street-sweepers*
- *silt and sediment traps*
- *catchpit protection*

In no circumstances should the washing of deposited materials into drains be advised or otherwise condoned.

11. The site shall be progressively stabilised against erosion at all stages of the earthwork activity.
12. All earthworks activity on the subject site shall comply with the New Zealand Standard 6803:1999 for Acoustics – Construction Noise.
13. The use of noise generating motorised equipment and vehicle movements to and from the site associated with earthworks activity on the subject site shall be restricted to between the following hours:

Monday to Friday: 7:30 a.m. to 7p.m.

Saturday: 8:00am to 5:30pm

There is to be no operation of noise-generating, motorised equipment and vehicles associated with earthworks activity on the subject site on Sundays or public holidays.

14. There shall be no obstruction of access to public footpaths, berms, private properties, public services/utilities, or public reserves resulting from the earthworks activity. All materials and equipment shall be stored within the subject site's boundaries.
15. There shall be no airborne or deposited dust beyond the subject site as a result of the earthworks activity that in the opinion of Council is noxious, offensive or objectionable.

Advice Note:

It is recommended that potential measures as discussed with Council's monitoring officer who will guide you on the most appropriate approach to take. Please contact the Team Leader, Compliance & Monitoring North West 2 on +64 9 301 0101 for more details. Alternatively, please refer to the Ministry for the Environment publication "Good Practice Guide for Assessing and Managing the Environmental Effects of Dust Emissions".

16. There shall be no damage to public roads, footpaths, berms, kerbs, drains, reserves or other public asset as a result of the earthworks activity. In the event that such damage does occur, Council will be notified within 24 hours of its discovery. The costs of

rectifying such damage and restoring the asset to its original condition will be met by the consent holder.

Advice Note:

In order to prevent damage occurring during the earthwork activity, the consent holder should consider placing protective plates over footpaths, kerbs, and drains. Where necessary, prior to works commencing, photographing or video recording of roads, paths and drains may be appropriate.

If you would like further details or suggestions on how to protect public assets during the earthwork phase, please contact Council on +64 9 301 0101

17. Notice must be provided Council at least two (2) working days prior to the removal of any erosion and sediment control works.
18. Where excess soil or waste materials resulting from earthworks activity is to be removed from the subject site, it shall be deposited at an approved disposal site.

Geotechnical Conditions

19. All earthworks must be managed to ensure that they do not lead to any uncontrolled instability or collapse either affecting the site or adversely affecting any neighbouring properties. In the event that such collapse or instability does occur, it must immediately be rectified.
20. The construction of buildings foundations, retaining structures and all associated earthworks must be supervised by a suitable qualified engineering professional. In supervising the works, the suitable qualified engineering professional shall ensure that they are constructed and otherwise completed in accordance with NZS 4431:1989 Code of Practice for Earthfill for residential Development or NZS4404:2004 Code of Practice for Urban Land Development & Subdivision Engineering and “Section 2 of the Code of Practice: City Infrastructure and Land Development” and the following reports:
 - a) Geotechnical Investigation Report prepared by Geoconsult Geotechnical Consultants, reference GE305.1, dated 3/03/2021.

Stormwater Conditions

21. The consent holder must design, install and maintain a private on-site stormwater management device (stormwater detention tank / reuse tank/ dual purpose tank) in accordance with Auckland Council’s standards. The system shall mitigate against adverse effects on the environment for 1 in 10 year rain events to predevelopment flowrate.
 - b) Provide an as-built plan prepared by a certifying drain layer/plumber signed as sighted and approved by a Council Inspector.

Advice note:

The stormwater management device or system shall be operated and maintained in accordance with best practice for the device or system. Details of all inspections and maintenance for the stormwater management system, for the preceding three years,

shall be retained by the consent holder. These records shall be provided to the Regulatory Engineering Team Leader – North West 1 on request.

Construction of private drainage requires building consent.

22. The lot discharges stormwater via a private outfall. The consent holder must design and construct a stormwater outfall structure as a disposal point for stormwater runoff from the lot in accordance with Flood Report by CBA Consultants dated 25th January 2022. Certification that works have been satisfactorily undertaken must be provided to Council within 1 month of the completion of works.

Advice Note:

Acceptable forms of evidence include Code of Compliance Certificates.

A building consent for these works will be required.

Please be aware of any additional conditions and requirements pertaining to this private outfall, such as regional consenting conditions and requirements.

Arboricultural conditions

23. Vegetation removal works must be carried out in a manner that avoids damage to vegetation being retained. The preferred option to manage any overhanging limbs will be to tie them back temporarily to provide the required level of clearance during works. If any canopy pruning is required, it will be carried out under the guidance of the works arborist and involve removal of the minimum amount of material to provide reasonable clearance above and beyond the dwelling footprint. Any such canopy trimming will be in general accordance with industry best practice guidelines and standard E15.6.9 of the AUP and must only be carried out as a last option if it is not possible to temporarily tie back limbs for clearance purposes.
24. Any excavations or other ground disturbance works within the site that are located within the root zone areas of any retained vegetation must be subject to appropriate levels of arboricultural supervision by the works arborist. This supervision must be based on the following standard procedures:
- a) Initial excavation along the edge of the development footprint must be subject to supervision by the works arborist and is to be done using hand tools and careful use of hand-operated machinery where trim them accordingly if it is not possible to retain them.
 - b) Any roots more than 25mm diameter that are encountered must be retained wherever possible and protected by a layer of geotextile fabric or black polythene to prevent desiccation until covered with suitable backfill.
 - c) The severance of any root more than 25mm must be done at the discretion of the works arborist. Any roots which are to be cut shall be cut back cleanly to at least 50mm beyond the excavation face leaving a clean cut as opposed to fragmented or broken root ends, and the area around the root must be either backfilled with the original material (or suitable base course material) or covered with geotextile fabric or black polythene to prevent desiccation.

25. Construction-related materials and machinery must be stored away from any permeable root zone area of any retained vegetation and will remain within the development footprint or on areas with suitable ground protection. Any machinery movements in the vicinity of any retained vegetation will require deployment of a spotter to ensure no impact damage occurs to branches or stems. No machinery movements are expected to occur outside of the development footprint.
26. Installation of effluent disposal infrastructure will entail no root zone disruption, ground modification or any other root-damaging activity. Dripper pipes must be pegged onto the ground with minimal disruption to vegetation and it is anticipated no vegetation will be removed to accommodate this work.
27. On completion of the development, a project completion memo must be sent to the Compliance Monitoring Officer at Auckland Council detailing compliance with the relevant tree protection requirements and confirmation that any adverse effects suffered by any retained trees as a result of the works have been insignificant. The dates and times of attendance shall also be logged

Ecological conditions

28. The planting plan 'Planting plan for SEA enhancement - Revision B' and 'Planting Plan – Zone F' Revision A, prepared by Nick Robinson, dated 3/02/2023 must be implemented in the first planting season (May - September) immediately following completion of construction. Confirmation in the form of a planting completion report must be provided to the Council within 30 working days of the planting works being completed. This report must confirm the species, grade, number of plants planted, locations replanted and that the planting has been completed in accordance with best practice.
29. All plants must be eco-sourced from the Waitākere Ecological District.
30. Five years of maintenance must commence once the planting completion report has been approved by the Council in accordance with condition 29 above. If the vegetation dies or declines beyond recovery during this period, it must be replaced by the consent holder with a new specimen of the same size and the species to that which was originally planted. Throughout the five-year establishment period the consent holder must ensure that a pest plant free environment is maintained in the revegetation area.
31. Prior to any Myrtaceae species (mānuka, kānuka) being delivered to the site, a signed Myrtle Rust Nursery Management Declaration that certifies that the plant producer has implemented the New Zealand Plant Producers Incorporated Myrtle Rust Nursery Management Protocol must be obtained by the consent holder. A copy of the declaration must be provided to the Team Leader – Compliance Monitoring NW2 within 5 days of being obtained.

Advice note:

The New Zealand Plant Producers Incorporated has developed a framework of supply chain biosecurity protocols that will satisfy the above condition. A copy of the Myrtle Rust Nursery Management Declaration and the New Zealand Plant Producers Incorporated Myrtle Rust Nursery Management Protocol can be found at the website

(<http://nzppi.co.nz/>). The website explains that a declaration signed by the plant provider will be proof that any Myrtaceae species have been grown and treated according to best practice protocols to reduce the spread of Myrtle rust.

32. All vegetation alteration and/or clearance must occur outside the main native bird nesting season (early September until the end of February inclusive) to minimise any disturbance risk that vegetation removal would have on nesting birds. If vegetation clearance is unavoidable during the main native bird nesting season, an approved and experienced ecologist or ornithologist must visually observe and inspect all trees and shrubs proposed for removal within 24 hours of felling to identify any active nests. This includes checking cavities and hollows for nesting birds (e.g. morepork, kingfisher). Should any nesting be identified, a 10-metre buffer of vegetation must be required to remain around the nest site until an approved and experienced ecologist or ornithologist has confirmed that the nest has failed, or the chicks have hatched and naturally left the natal site. Following inspection and confirmation of absence of nesting birds, the consent holder must submit a completion report to the Team Leader NW2 Monitoring for approval, within 30 working days.

Advice Note

Almost all native bird species are absolutely protected under the Wildlife Act 1953. It is an offence to deliberately disturb or destroy them, their eggs or nests. By restricting vegetation clearance to outside of the main native bird breeding season the risk of disturbing nesting forest birds is significantly reduced (but not entirely eliminated), therefore vegetation should still be checked for obvious signs of nesting activity prior to clearance works being undertaken.

Lizard Management

33. Prior to the commencement of any vegetation removal works the Consent Holder must submit and have certified by Council, a Lizard Management Plan (LMP) prepared by a suitably qualified and experienced ecologist/herpetologist. The LMP Plan must be designed so as to achieve the following two objectives:
- a) The population of each species of native lizard present on the site at which vegetation clearance is to occur must be maintained or enhanced, either on the same site or at an appropriate alternative site; and
 - b) The habitat(s) that lizards are transferred to (either on site or at an alternative site, as the case may be) will support viable native lizard populations for all species present pre-development.

The LMP must address the following (as appropriate):

- Credentials and contact details of the ecologist/herpetologist who will implement the plan.
- Timing of the implementation of the LMP.
- A description of methodology for survey, trapping and relocation of lizards rescued including but not limited to: salvage protocols, relocation protocols (including method used to identify suitable relocation site(s)), nocturnal and

diurnal capture protocols, supervised habitat clearance/transfer protocols, artificial cover object protocols, and opportunistic relocation protocols.

- A description of the relocation site; including discussion of:
 - (provision for additional refugia, if required e.g. depositing salvaged logs, wood or debris for newly released skinks that have been rescued;
 - any protection mechanisms (if required) to ensure the relocation site is maintained (e.g.) covenants, consent notices etc;
 - any weed and pest management to ensure the relocation site is maintained as appropriate habitat.
- Monitoring methods, including but not limited to: baseline surveying within the site, baseline surveys outside the site to identify potential release sites for salvaged lizard populations and lizard monitoring sites, ongoing annual surveys to evaluate translocation success, pre and post – translocation surveys, and monitoring of effectiveness of pest control and/or any potential adverse effects on lizards associated with pest control.
- A post-vegetation clearance search for remaining lizards.

Advice Note:

Please note that it is recommended that the lizard rescue plan is undertaken in conjunction with the vegetation clearance operations (and contractor) for an integrated approach (on the same day), to enable the physical search for gecko's following felling of trees and shrubs and to rescue any skinks from ground cover vegetation and terrestrial retreats.

34. A suitably qualified and experienced ecologist/herpetologist acceptable to the council, must be onsite to oversee the implementation of the Lizard Management Plan (LMP) and to supervise all and any habitat removal in order to search for and rescue any native lizards found and relocate them to a suitable alternative location on the site.
35. Upon completion of works, all findings resulting from the scouting and search and rescue during vegetation removal condition must be recorded by a suitably qualified and experienced ecologist/herpetologist approved by the council on an Amphibian/Reptile Distribution Scheme (ARDS) Card (or similar form that provides the same information) and sent the Council.

Advice Note:

The Wildlife Act 1953

• *All native lizards are totally protected under the Wildlife Act 1953 under which it is an offence to disturb, harm, or remove them without a permit from the Minister of Conservation.*

• *For further information on lizards that are protected under the Wildlife Act and determination of a suitable new habitat please contact the council's Biodiversity team (Team Leader Central/South Biodiversity, on biodiversity@aucklandcouncil.govt.nz)*

Correspondence

- All correspondence relating to lizard management conditions can be emailed to monitoring@aucklandcouncil.govt.nz and cc'd to ecologicaladvice@aucklandcouncil.govt.nz

36. The recommendations of the ecology report 'Ecological Assessment, prepared by Nick Robinson, dated 14/12/2022 must be implemented following the granting of consent, including pest plant and animal control over the entire site.

Covenant – Ecological

37. The consent holder must enter into a section 108 Resource Management Act 1991 covenant in favour of Auckland Council [the council] for Lot 27 DP 20694. The consent holder shall contact Council to initiate the preparation of the covenant. A copy of the updated Computer Register (Record of Title) showing that the covenant has been registered must be provided to Council prior to commencement of the activity.

The covenant must:

- Show area "F" as shown on 'Planting Plan – Zone F', revision A, prepared by Nick Robinson, dated 3/2/2023 to be covenanted for the purposes of vegetation protection and managed in accordance with the specifications on this plan.
- be drafted by the council's nominated Solicitor at the consent holder's cost; and
- be registered against the Computer Register(s) (record of title) to the affected land by the consent holder at their cost; and
- require the consent holder to:
 - be responsible for all legal fees, disbursements and other expenses incurred by the council in connection with the covenant, and procure its solicitor to give an undertaking to the council for payment of the same; and
 - indemnify the council for costs, fees, disbursements and other expenses incurred by the council as a direct or indirect result of the council being a party to this covenant.

Kauri Dieback

38. As New Zealand kauri trees (*Agathis australis*) (and soil and material surrounding them) may contain the pathogen that causes kauri dieback (*Phytophthora agathidicida* (formerly PTA)) strict hygiene procedures are required when works occur on or around kauri trees so as to avoid the spread of kauri dieback. All vegetation, soil, and other material from within a "kauri contamination zone" (defined as 3 (three) x the radius of the canopy dripline of any kauri tree) must remain on site or be taken to an approved landfill facility. For further information please contact the Kauri Dieback Programme on 0800 NZ KAURI (69 52874) or visit the website www.kauridieback.co.nz.

Advice Note:

Guidance on the location of approved landfill facilities can be found in the Ministry for Primary Industries guidance titled: Landfill disposal of contaminated material at website: www.kauridieback.co.nz.

39. Any material (including soil) from within the “kauri contamination zone” which is to be removed to an approved landfill facility must then be buried within the ground. Where the material is to be loaded onto the back of an open top vehicle, the material must be covered with a tarpaulin (or similar) to prevent the material from leaving the vehicle whilst it is in motion. After the material has been emptied from the truck, the areas of the truck which were previously exposed to the material and the tarpaulin must be thoroughly washed with Sterigene (or other suitable agent) prior to the truck or tarpaulin being used for the transportation of any other material.
40. All footwear, clothing, tools, vehicles and equipment used on site must be cleaned of all soil, vegetation, or other material that has, or may have, come from a kauri contamination zone and must be thoroughly washed with Sterigene (or other suitable agent) on entry and exit from the site, on every occasion, to avoid the spread of kauri dieback (*Phytophthora agathidicida* (formerly PTA)).

Advice Note:

Further advice can be found within the guidelines titled ‘Hygiene Procedures for Kauri Dieback’ and ‘Procedures for Tree Removal and Pruning’ published by the Ministry for Primary Industries Kauri Dieback Management Programme which can be found at www.kauridieback.co.nz or copies can be obtained from Auckland Council.

Advice notes

1. *Any reference to number of days within this decision refers to working days as defined in s2 of the RMA.*
2. *For the purpose of compliance with the conditions of consent, “the council” refers to the council’s monitoring officer unless otherwise specified. Please email monitoring@aucklandcouncil.govt.nz to identify your allocated officer.*
3. *For more information on the resource consent process with Auckland Council see the council’s website: www.aucklandcouncil.govt.nz. General information on resource consents, including making an application to vary or cancel consent conditions can be found on the Ministry for the Environment’s website: www.mfe.govt.nz.*
4. *If you disagree with any of the above conditions, and/or disagree with the additional charges relating to the processing of the application(s), you have a right of objection pursuant to sections 357A and/or 357B of the Resource Management Act 1991. Any objection must be made in writing to the council within 15 working days of your receipt of this decision (for s357A) or receipt of the council invoice (for s357B).*
5. *The consent holder is responsible for obtaining all other necessary consents, permits, and licences, including those under the Building Act 2004, and the Heritage New Zealand Pouhere Taonga Act 2014. This consent does not remove the need to comply with all other applicable Acts (including the Property Law Act 2007 and the*

Health and Safety at Work Act 2015), regulations, relevant Bylaws, and rules of law. This consent does not constitute building consent approval. Please check whether a building consent is required under the Building Act 2004.

Delegated decision maker:

Name: Kate Hunter
 Title: Team Leader, Resource Consents

Signed: 

Date: 28 February 2023



Resource Consent Notice of Works Starting

Please email this form to monitoring@aucklandcouncil.govt.nz at least 5 days prior to work starting on your development or post it to the address at the bottom of the page.

Site address:				
AREA (please tick the box)	Auckland CBD <input type="checkbox"/>	Auckland Isthmus <input type="checkbox"/>	Hauraki Gulf Islands <input type="checkbox"/>	Waitakere <input type="checkbox"/>
Manukau <input type="checkbox"/>	Rodney <input type="checkbox"/>	North Shore <input type="checkbox"/>	Papakura <input type="checkbox"/>	Franklin <input type="checkbox"/>
Resource consent number:			Associated building consent:	
Expected start date of work:			Expected duration of work:	

Primary contact	Name	Mobile / Landline	Address	Email address
Owner				
Project manager				
Builder				

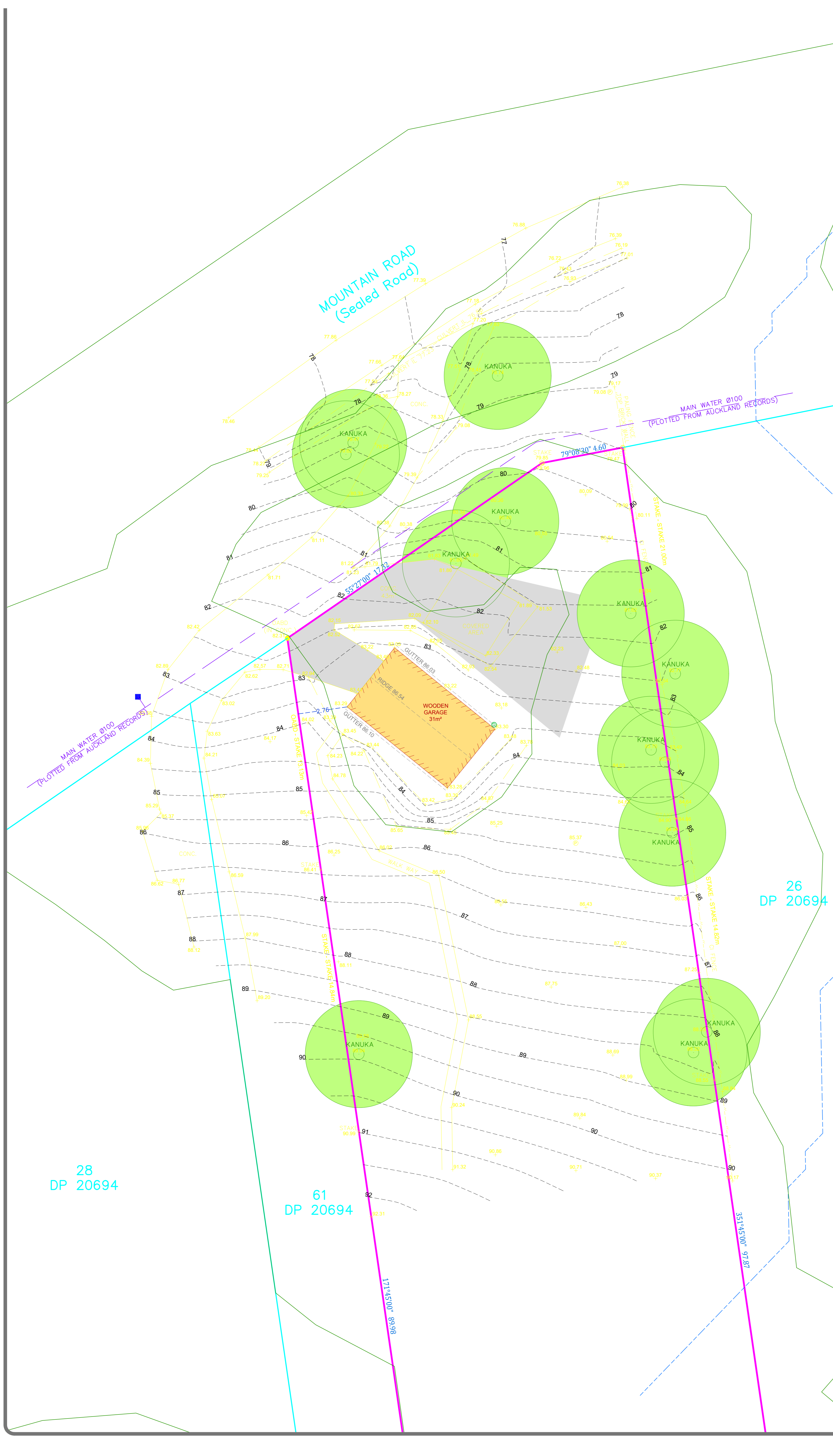
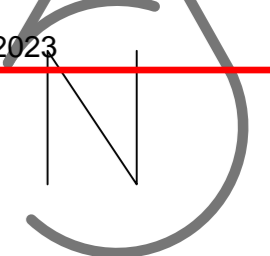
Earthmover				
Arborist				
Other (specify)				

Signature: Owner / Project Manager (indicate which)	Date:
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Once you have been contacted by the Monitoring Officer, all correspondence should be sent directly to them.

SAVE \$\$\$ minimise monitoring costs!

The council will review your property for start of works every three months from the date of issue of the resource consent and charge for the time spent. You can contact your Resource Consent Monitoring Officer on 09 301 0101 or via monitoring@aucklandcouncil.govt.nz to discuss a likely timetable of works before the inspection is carried out and to avoid incurring this cost.



Legend

	Downpipe
	Gully Trap
	Terminal Vent
	Buchan Trap
	Gas Meter
	Water Supply Valve
	Fire Hydrant
	Water Meter
	Telecom Plinth
	Power Plinth
	Power Pole
	Light Pole
	Stormwater Manhole
	Wastewater Manhole
	Wastewater Lamphole
	Catch Pit
	Lot Boundaries
	Easement Boundaries
	Fwy or Tel Line (G Head)
	Stormwater Pipe
	Wastewater Pipe
	Water Supply Pipe
	Fence
	Gutter or Ridge Lines
	Contour Lines
	Existing Building
	Paved Areas
	Landscaped Areas
	Outdoor Living Areas
	Significant Ecological Areas

Standard Notes

- Tree names are based on our survey teams knowledge of trees, and is for information only. We recommend confirmation by a suitably qualified arborist.
- Private Drainage and (if noted) Public Drainage has been plotted from council records. Their position should not be used for design purposes. Their actual position should be located and surveyed before design or construction begins.
- Wastewater & Stormwater manholes only have lid levels surveyed, new regulations mean we cannot open manholes
- The design and drawings on this plan are not to be reproduced without permission from Kiwi Vision Consultants Ltd, and shall remain the property of Kiwi Vision Consultants Ltd.

Notes specific to this plan:

- nil

Contours (if shown) are at 0.50m intervals.
 Levels are in terms of Lands & Survey Datum - Origin: IS XLII DP 163498
 RL 73.47 (GPS)

Drawn by AK	Date Surveyed 18/10/2022	Checked By CA	Date Issued 26/10/2022
rev	by	date	chk'd comments

Local Authority AUCKLAND COUNCIL	District Plan WAITAKERE		
Appellation LOT 27 DP 20694			
Record of Title NA860/9			
Total Area 1905 m²	Scale 1:100 @ A1 1:200 @ A3		
Project 70 MOUNTAIN ROAD HENDERSON VALLEY			
Client PATRICK NORTON			
Sheet Title TOPOGRAPHICAL PLAN			
Job Number 222206	Drawing No. T.01	Revision -	Sheet No. 1 of 1

Kiwi Vision Consultants
 A Property Subdivided

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 ROSEDALE, AUCKLAND 0632
 PH 915-4135, FAX 915-4138
 info@kiwivision.co.nz

28
DP 20694

61
DP 20694

26
DP 20694

GENERAL NOTES

1. ALL WORKS SHALL COMPLY WITH RELEVANT CLAUSES OF THE NEW ZEALAND BUILDING ACT
2. ALL TIMBER CONSTRUCTION TO COMPLY WITH NZS 3604. ALL WORKS OUTSIDE THIS SCOPE TO SPECIFIC ENGINEERS DESIGN AND DESIGN IT CERTIFICATE.
3. ALL FRAMING SIZES NOMINAL. ALL DIMENSIONS OVER TIMBER FRAMING NOMINAL
4. ALL TIMBER TREATMENT TO COMPLY WITH NZS 3604: SECTION 4, NZBC: SECTION B2 & NZS 3602
5. EXISTING BUILDING ELEMENTS, DIMENSIONS AND LEVELS TO BE CHECKED ON SITE FOR CONFIRMATION.
6. CONTRACTOR TO CONFIRM ALL DIMENSIONS & LEVELS ON SITE PRIOR TO COMMENCING ANY WORK. ANY AMBIGUITIES TO BE REFERRED TO THE ARCHITECTS.
7. CONTRACTOR IS TO VERIFY & MARK THE POSITION OF ALL BELOW GROUND SERVICES ON OR ADJACENT TO THE SITE PRIOR TO BEGINNING CONSTRUCTION. POSITIONS SHOWN ON DRAWINGS ARE APPROXIMATE ONLY.
8. SHOP DRAWINGS TO BE SUBMITTED TO ARCHITECT FOR REVIEW PRIOR TO MANUFACTURE.
9. DRAWINGS TO BE READ IN CONJUNCTION WITH THE ARCHITECTURAL SPECIFICATION & FINISHES SCHEDULE.
10. DRAWINGS TO BE READ IN CONJUNCTION WITH THE STRUCTURAL DRAWINGS & SPECIFICATION. REFER TO STRUCTURAL ENGINEERS DRAWINGS FOR STRUCTURAL ELEMENT SIZES AND DETAILS.
11. ALL WORKMANSHIP TO BE CARRIED OUT TO BEST TRADE PRACTICE
12. ALL SPECIFIED SYSTEMS MUST BE INSTALLED STRICTLY IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION DETAILS & SPECIFICATION
13. ALL SPECIFIED SYSTEMS HAVE BEEN CONSENTED & AS SUCH ALTERNATIVES MAY REQUIRE A CONSENT AMENDMENT. ALL COSTS ASSOCIATED WILL BE BORNE BY THE CONTRACTOR UNLESS AGREED OTHERWISE.
14. ALL JUNCTIONS BETWEEN DISSIMILAR MATERIALS REQUIRE SPECIFIC DETAILS. IF ONE IS NOT PROVIDED ENSURE ONE IS OBTAINED FROM THE ARCHITECT PRIOR TO CONSTRUCTION.

ABBREVIATIONS & ACRONYMS

ACP	Aluminium Composite Panel	G	Glass	RHS	Rectangular Hollow Section
ACM	Aluminium Composite Material	GT	Gully Trap	RL	Reduced Level
AP	Access Panel	HOR	Horizontal	R/O	Rough Opening
APPR	Approved	HT	Hose Tap	SB	Electric Switchboard
C/L	Centreline	HWC	hot water cylinder	SB	Electric Switchboard
C/C	Centre to Centre	ID	Inside Diameter	ROW	Right of Way
CODE	NZ Building Code	IL	Invert Level	SC	Saw Cut Joint
CONC	Concrete	IB	Inspection Bend	SCHD	Schedule
COS	Check on Site	IJ	Inspection Junction	SH	Shower
CHS	Circular Hollow Section	IT	Intertency Wall	SK	Sink
CRS	Centers	KW	Kilowatt	SHS	Square Hollow Section
CS	Coach Screw	L	Litre	SPEC	Specification
DB	Distribution Board	m	Metre	SEW	Sewer
DIA	Diameter	MAX	Maximum	SD	Sewer Drain
DIM	Dimension	MIN	Minimum	STC	Sound Transmission Class
DP	Down Pipe	MM	Millimeter	STST	Stainless Steel
DPC	Damp Proof Course	N/A	Not Applicable	SW	Stormwater
DPM	Damp Proof Membrane	NTS	Not to Scale	SWD	Stormwater Drain
DW	Dishwasher	NZS	New Zealand Standard	TBC	To Be Confirmed
DEG	Degree	O/A	Overall	TFC	Tapered Flange Channel
DWG	Drawing	O/H	Overhead	TV	Terminal Vent
EJ	Expansion Joint	OD	Outside Diameter	TYP	Typical
EX	Exit	O/F	Overflow	U/S	Underside
FFL	Finished Floor Level	PCP	Precast Concrete	UB	Universal Beam
FG	Fixed Glass	PC	Powder Coated	UNO	Unless Noted Otherwise
FH	Fire Hydrant	PFC	Parallel Flange Channel	UC	Universal Column
FHR	Fire Hose Reel	R	Radius	VAN	Vanity
FO	Floor Outlet	RAD	Radiata	VER	Vertical
FWO	Floor Waste Outlet	RC	Reinforced Concrete	W	Washing machine
FRR	Fire Resistance Rating	REF	Reference		

STEEL WORK FINISH & PROTECTION NOTES

1. REFER TO STRUCTURAL DRAWINGS FOR ALL MEMBERS REQUIRING SPECIFIC PROTECTION
2. REFER TO SPECIFICATION FOR PROTECTIVE COATINGS ON STEELWORK
3. **ALL** EXPOSED STRUCTURAL STEEL TO BE F4 PAINT FINISH UNLESS CONCEALED ABOVE SUSPENDED CEILING.
4. THE INTUMESCENT PAINT SYSTEM APPLICATOR IS TO APPLY DECORATIVE FINISH COATS & SUPPLY A CONTINUITY WARRANTY
5. APPLY PRIMERS STRICTLY IN ACCORDANCE WITH SPECIFICATION.

1. THE CONTRACTOR SHALL REFER TO ALL CONSULTANTS' PLANS, SPECIFICATIONS AND DOCUMENTS. DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE RELEVANT CLAUSES OF THE SPECIFICATION

DOOR NOTES

1. REFER TO FLOOR PLANS FOR LOCATION AND HANDING OF DOORS.
2. ALL DIMENSIONS TO BE CHECKED ON SITE BEFORE THE COMMENCEMENT OF MANUFACTURE.
3. ALL DIMENSIONS SHOWN ARE NOMINAL SIZES ONLY.
4. JOINERY MANUFACTURER TO SUPPLY SHOP DRAWINGS OF ALL JOINERY UNIT & SAMPLE JOINERY SECTIONS TO ARCHITECT FOR APPROVAL PRIOR TO MANUFACTURE.
5. ALLOW TO SIZE DOOR FRAME WIDTH TO SUIT WALL TYPE AND SKIRTINGS.
6. REFER TO HARDWARE SCHEDULE FOR ALL HARDWARE ITEMS AND READ IN CONJUNCTION WITH DOOR SCHEDULE
7. ALL EXPOSED EXTERIOR DOORS INCLUDING DOORS FACING INTO CARPARKS (SEMI-EXTERIOR) TO BE CAPPED ON 4 SIDES
8. FOR DOORS ASSOCIATED WITH WINDOW FRAMES REFER TO WINDOW SCHEDULE
9. REFER TO DOOR DETAILS IN 6000 DRAWING SERIES
10. ALLOW CLEARANCE FOR FLOOR FINISH.

WALL NOTES

1. **WALLS ABOVE GROUND**
ALLOW FOR MARKHAM AQURON 1200 WATER REPELENT COATING TO EXTERNAL FACE OF ALL CONCRETE BLOCKWORK WALLS, INSITU CONCRETE WALLS/COLUMNS, PRECAST CONCRETE WALLS UNLESS NOTED OTHERWISE. CONTRACTOR TO COORDINATE WITH MARKHAM COATING SYSTEM SUPPLIER FOR SPECIFIC DETAILS
2. **CONCRETE BLOCKWORK**
SOLID FILL:
REFER STRUCTURAL ENGINEERS DRAWINGS FOR EXTENT OF SOLID FILL TO CONCRETE BLOCKWORK
BOND PATTERN:
WHERE ONE OR MORE FACES CLEAR SEALED FINISH ALLOW FOR STACK BOND FIRE RATING
3. CONTRACTOR TO ALLOW FOR SOLID NOGGING TO ALL BATHROOM AS PER STANDARD DETAILS.
4. CONTRACTOR TO ALLOW FOR H3.2 TIMBER BATTENS AND BLOCKING AROUND ALL STEEL MEMBERS INSIDE TIMBER WALL FRAMES.
5. ALL EXTERIOR WALL FRAMING SHALL BE TREATED TO MIN H3 (OR APPROVED SIMILAR TREATMENT) AND SHALL BE SEPARATED FROM ANY CONCRETE WITH SELECTED DPC.

WINDOW NOTES

1. GLASS TYPES, GAUGE AND FRAME SIZES TO BE CONFIRMED BY JOINERY MANUFACTURER. MINIMUM GLASS THICKNESS FOR ALL WINDOWS 6.38 PVB LAMINATED GLASS OR DOUBLE GLAZING.
2. ALL DETAILS SHOWN ARE INDICATIVE ONLY AND SHOULD BE USED FOR DESIGN INTENT PURPOSES ONLY. WINDOW/DOOR MANUFACTURER TO PROVIDE SHOP DRAWINGS FOR APPROVAL BASED ON TYPICAL DETAILS SHOWN.
3. ALL WINDOWS / DOORS VIEWED FROM OUTSIDE
4. ALL DIMENSIONS TO BE CHECKED ON SITE BEFORE THE COMMENCEMENT OF MANUFACTURE. MANUFACTURER TO ENSURE WATERTIGHT DETAILING OF ALL JOINERY.
5. ALL ALUMINIUM JOINERY TO HAVE SPECIFIED FINISH
6. ALLOW TO PROVIDE ALL HANDLES, LOCKS & HINGES UNLESS NOTED OTHERWISE.
7. ALL SYSTEMS SHALL BE FULLY ENGINEERED, CERTIFIED AND QUALITY ASSURED. PROVIDE EXISTING EQUIVALENT TEST CERTIFICATES OR ALLOW TO TEST WINDOW/DOOR/CLADDING SYSTEMS TO NZ/AS 4284 PRIOR TO MANUFACTURE.
8. ALL GLASS TO BE CLEAR UNLESS OTHERWISE STATED, CONFIRM WITH ARCHITECT PRIOR TO MANUFACTURE
9. WINDOW MANUFACTURE TO ALLOW FOR WIND LOADS, SEISMIC MOVEMENT AND INTERSTORY DRIFT AS REQUIRED. REFER TO STRUCTURAL.

PLUMBING & DRAINAGE

WASTE PIPE BRANCH DRAIN MINIMUM GRADIENT

65ø - 1:40 MINIMUM GRADIENT
80ø - 1:60 MINIMUM GRADIENT
100ø - 1:60 MINIMUM GRADIENT

FIXTURE MIN DN MINIMUM GRADE

SINK 50ø - 1:40 MINIMUM GRADIENT
WHB 40ø - 1:40 MINIMUM GRADIENT
SHOWER 50ø - 1:40 MINIMUM GRADIENT
TUB 50ø - 1:40 MINIMUM GRADIENT
WC 80ø - 1:60 MINIMUM GRADIENT
STACK 100ø - 1:60 MINIMUM GRADIENT

- ALL PLUMBING AND DRAINAGE TO BE INSTALLED & TESTED BY A REGISTERED TRADESMAN

- FOUL WATER SANITARY PLUMBING SHALL COMPLY WITH AS/NZS 3500

- WATER SUPPLY AND RETICULATION SHALL COMPLY WITH NZBC G12/AS1

- STORMWATER DRAINAGE SHALL COMPLY WITH NZBC E1/AS1

- ALL DRAINS SHALL BE PVC

- ALL PIPES RUNNING THROUGH FOUNDATIONS ARE TO BE WRAPPED WITH DENSO TAPE

- DRAINAGE PIPES TO RUN UNDER SLABS TO BRANCH DRAINS - MIN SIZE 65MM ø

- CONCEAL ALL VENTS & PIPEWORK WITHIN THE WALLS



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01/03/2023

Use figured dimensions do not scale off drawings

Confirm all dimensions on site

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Underground services shown on the plan are not accurately located, confirm location of all underground services prior to any excavation work commencing



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70 Mountain Road

GENERAL NOTES

Issue 214

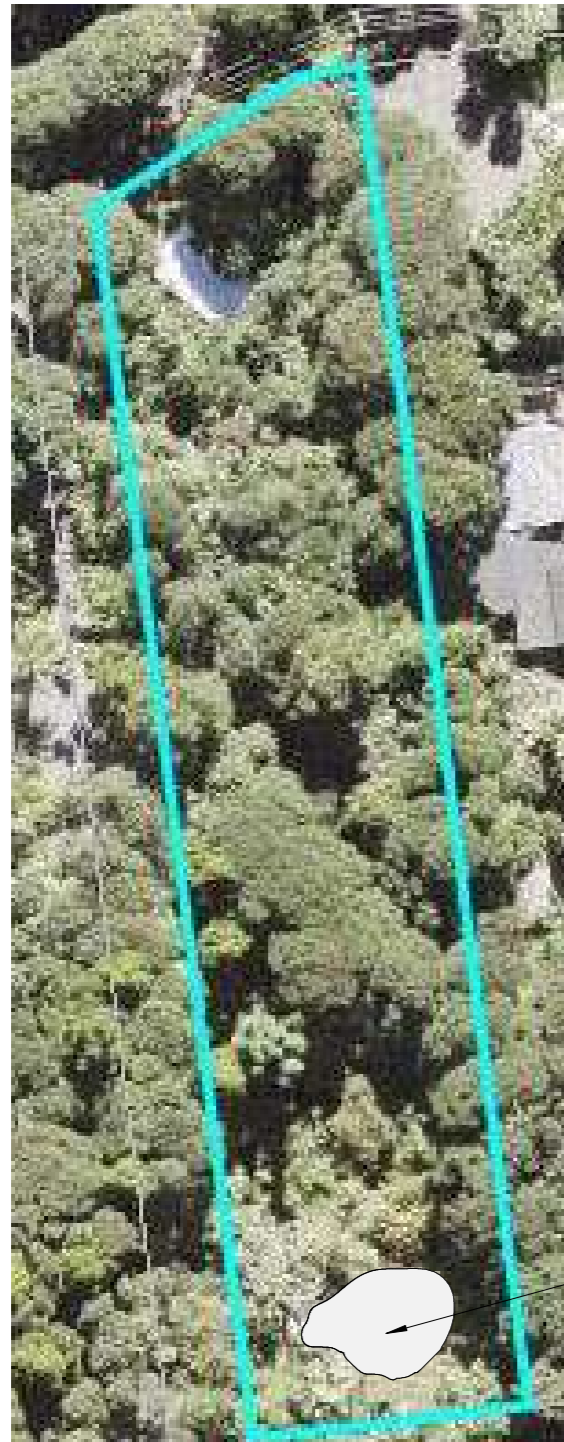
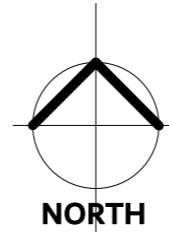
Drawn by Author

Date Printed 11/12/2022

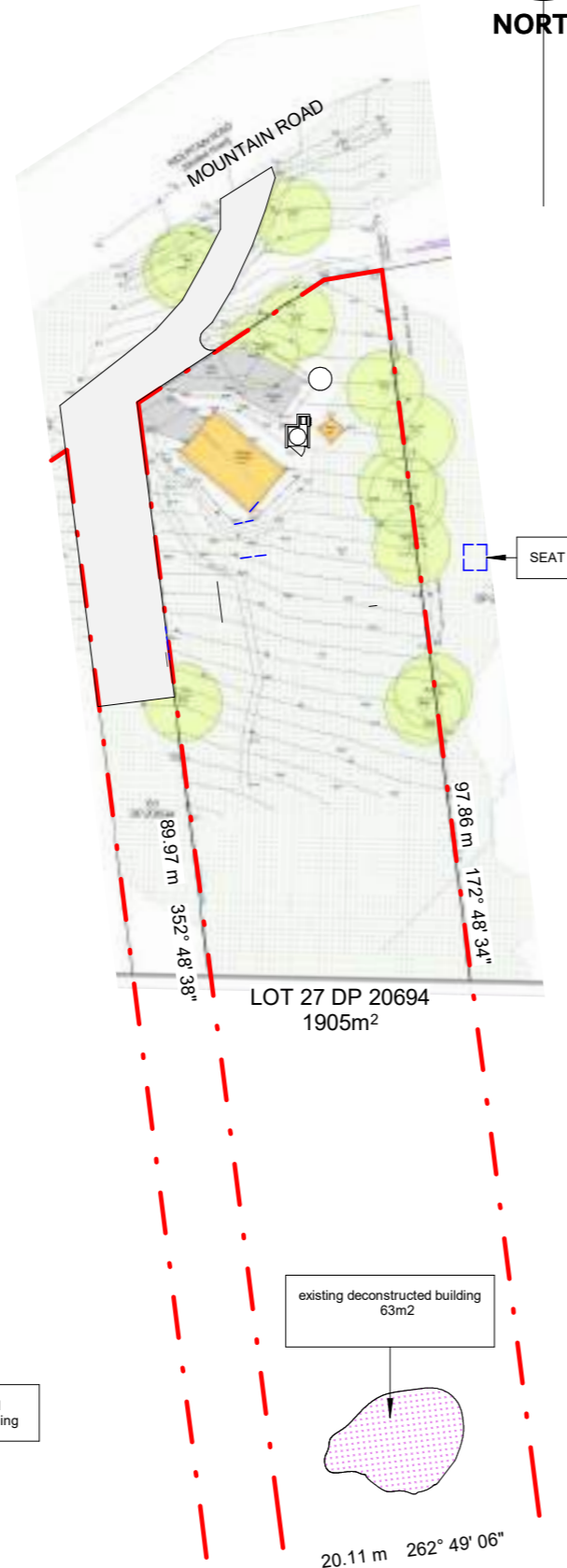
Revision No. Checker

A1-1

Scale As indicated



Aerial View
SCALE @ A3 - 1 : 500 | SCALE @ A1 - HALVE A3 SCALE



Existing site
SCALE @ A3 - 1 : 500 | SCALE @ A1 - HALVE A3 SCALE

H21- Unitary Plan – Rural - Waitakere Ranges Zone

COMPLIANCES

- **H21.6.2. Building height**
Purpose: to manage the bulk and scale of buildings to ensure they are in keeping with the natural landscape, natural character and amenity values of the zone.
 (1) Dwellings and buildings accessory to dwellings including minor dwellings and garages must not exceed 8m in height.
 (2) Other accessory buildings must not exceed a height of 15m.

>> **Maximum height** of the proposed building is 5.96m. This **complies** with the above standard. Maximum height of the existing accessory buildings is 3.2m.

- **H21.6.4. Building coverage**
 (1) The maximum building coverage within the Overlay Subdivision Plan 7a-7g – Bush Living (Ranges) identified in D12 Waitakere Ranges Heritage Area Overlay must not exceed ten per cent of net site area or 300m² whichever is the lesser

>> The proposed building coverage is 115.9m²m² with existing outbuildings of 50.73m² giving a total of 166.63m². This is 8.74% of the total site building coverage. This **complies** with the above Standard

- **H21.6.9. Dwellings**
The following standards apply to dwellings:
 (1) there must not be more than one dwelling (not including a minor dwelling) on a site;
 (2) a dwelling must be constructed to have colour reflectivity limited to the following:
 (a) between 0 and 40 per cent for exterior walls; and
 (b) between 0 and 25 per cent for roofs;
 (3) standard H21.6.9(2) does not apply to unstained timber and natural materials;
 (4) fencing around dwellings must comprise rural post and wire or post and rail fencing;
 (5) water tanks must be buried or be screened from views; and
 (6) driveways must be constructed with material that is visually recessive e.g. exposed aggregate concrete, asphalt, chip seal, concrete with charcoal oxide tint.

>> This proposal will result in one only dwelling on the site. **Complies** with (1) above.

>> Wall colour will be Resene Abacus (LRV 32) or similar.

>>The roof colour will be Resene Ivanhoe (LRV12) or similar.



>> The rainwater tank will be screened from view

>> Driveway material will be consistent with (6) above

SITE INFORMATION

Address: 70 Mountain Road Henderson Valley
 Legal Description: LOT27 DP20694
 Record of Title Number: NA860/9
 Property Area: 1905m²
 Area Unit: M
 Climate Zone: 1
 Wind Zone: High
 Wind Region: A
 Earthquake Zone: Zone 1
 Exposure Zone: Zone C
 Rainfall Range: 90 - 100

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70 Mountain Road

Site Plan

Issue 214

Drawn by Author

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Revision No. Checker

A1-2

Scale As indicated
 SCALE @ A3 - 1 : 100 | SCALE @ A1 - HALVE A3 SCALE



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An area of 55m² will be available for vehicle access. This will comprise an existing concrete access apron extended by site clearance and application of 250mm SAP 60 compacted over the existing ground outside the concrete apron area.

An aggregate covered stabilised accessway will not be required. Machinery working on the excavation will be localised over the hardstand area, and will be cleaned down before being transported off site. All other machinery will be located on the hardstand area. Silt will be controlled by the Super Silt Fence shown on the site plan.

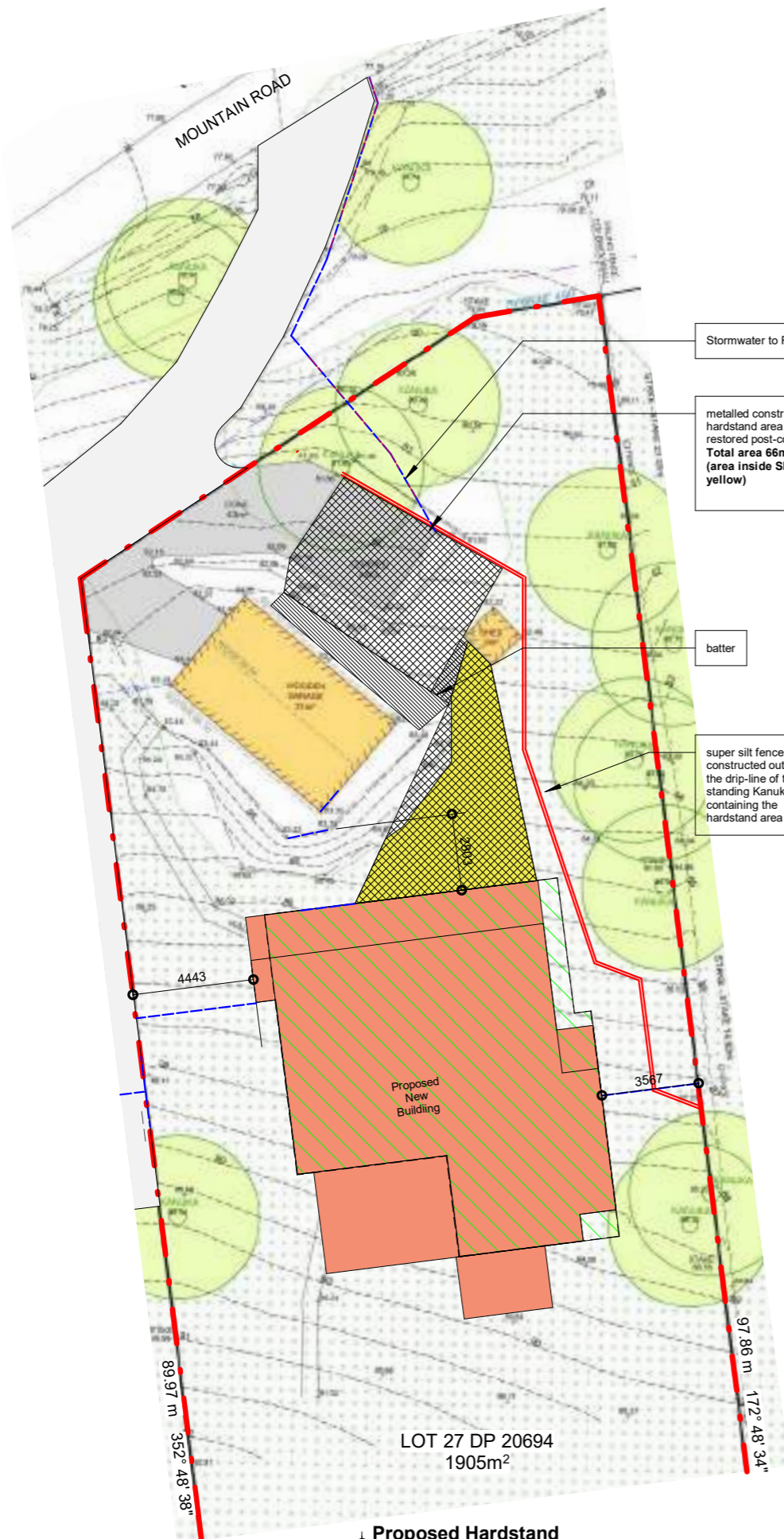
This area will be sufficient (combined with parking in and in front of the existing garage) for vehicle parking and temporary materials storage.

The area (shown pink in the image below) will be sufficient for materials access and construction of the house within the SEA.

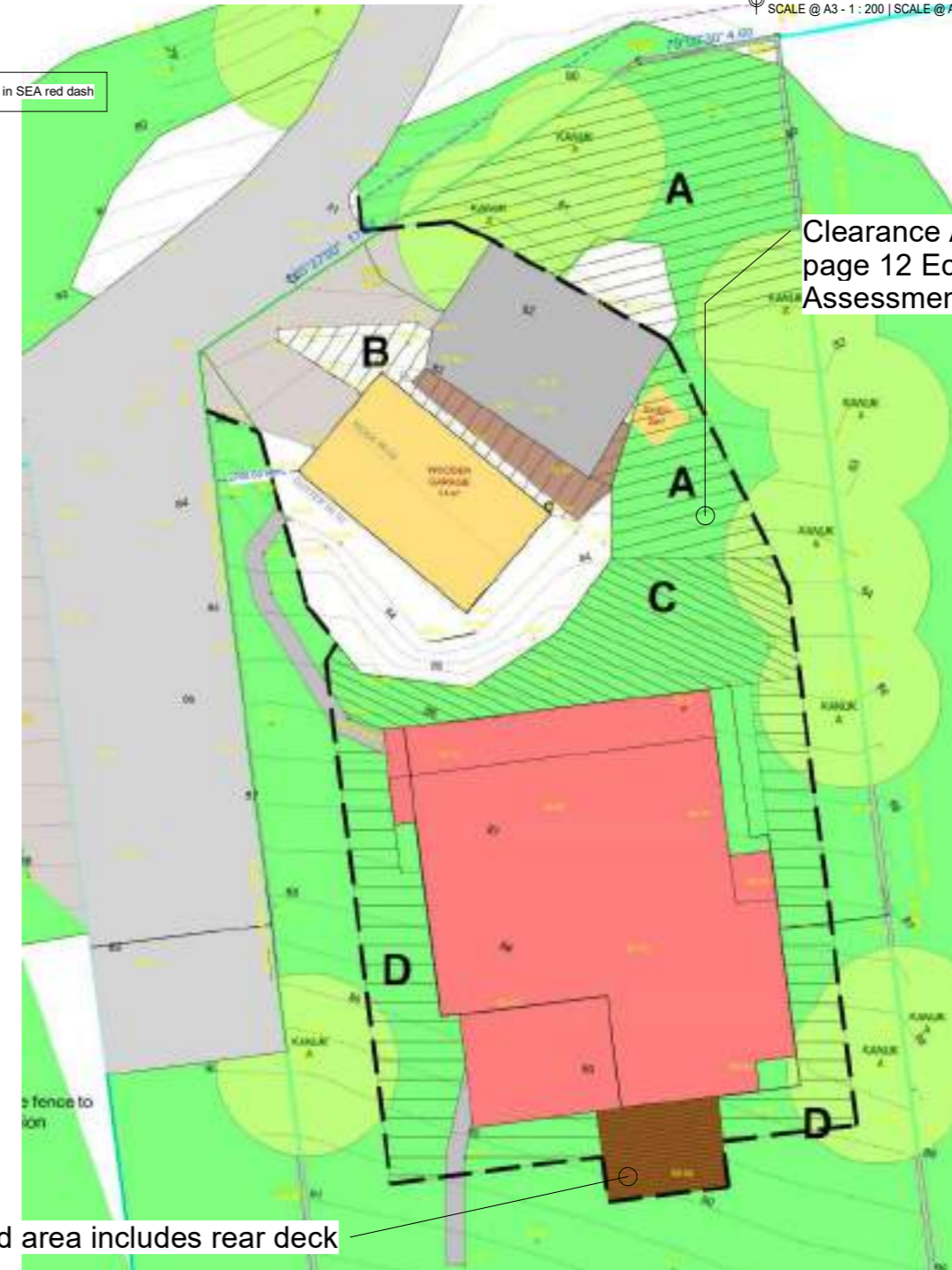
Allowance has been made in this area for scaffolding.

Construction Methodology

SCALE @ A3 - 1 : 200 | SCALE @ A1 - HALVE A3 SCALE



Proposed Hardstand
SCALE @ A3 - 1 : 200 | SCALE @ A1 - HALVE A3 SCALE



Clearance area 70 Mountain Road
SCALE @ A3 - 1 : 100 | SCALE @ A1 - HALVE A3 SCALE

Use figured dimensions do not scale off drawings

Confirm all dimensions on site

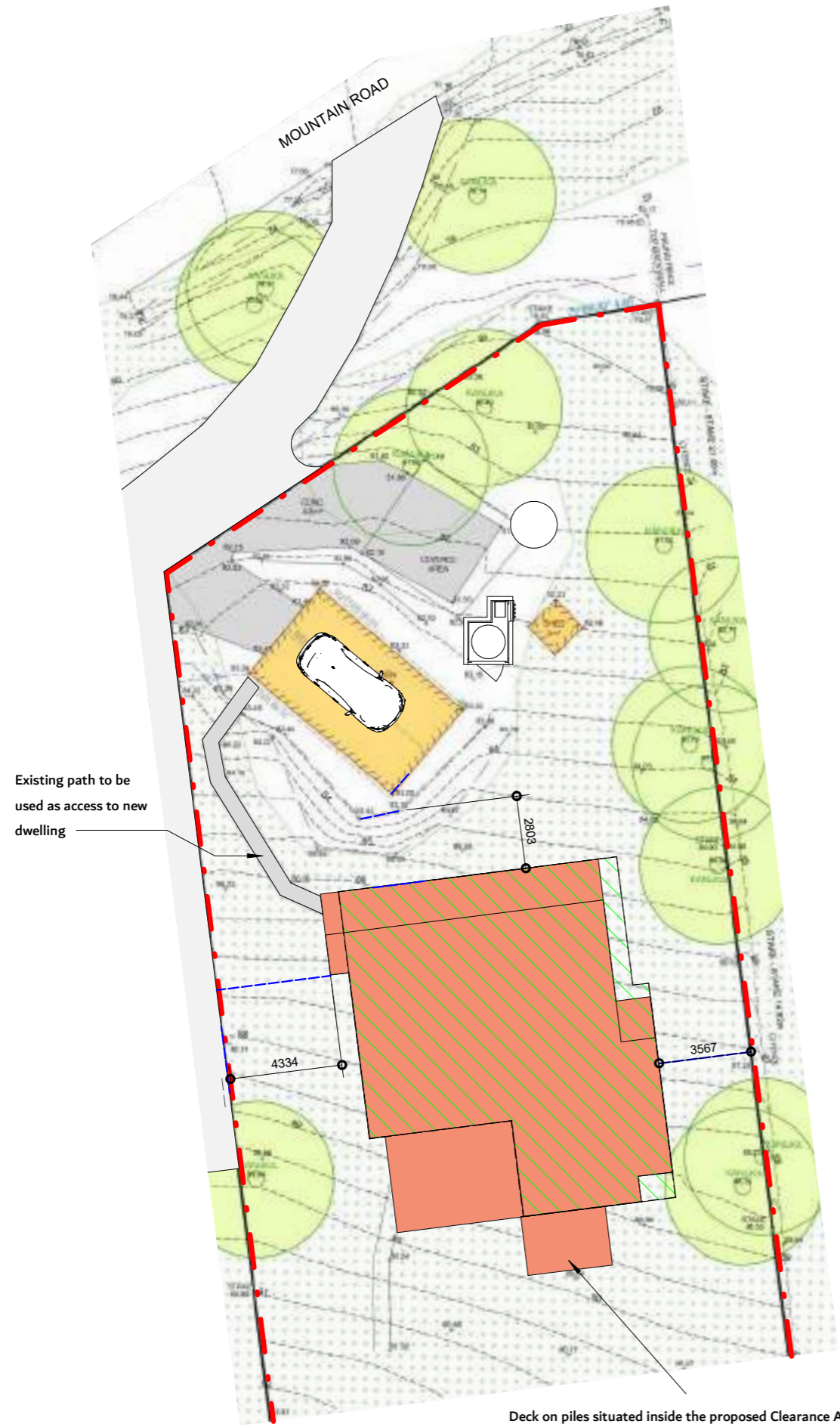
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QUANTUM CONSTRUCTION

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70 Mountain Road	
Proposed Site Plans	
Issue	214
Drawn by	BS
Date Printed	11/12/2022
Revision No.	Ecology
A1-3	
Scale	As indicated



Proposed Site Plan
 SCALE @ A3 - 1 : 200 | SCALE @ A1 - HALVE A3 SCALE



Super Siltfence Construction

Use figured dimensions do not scale off drawings

Confirm all dimensions on site

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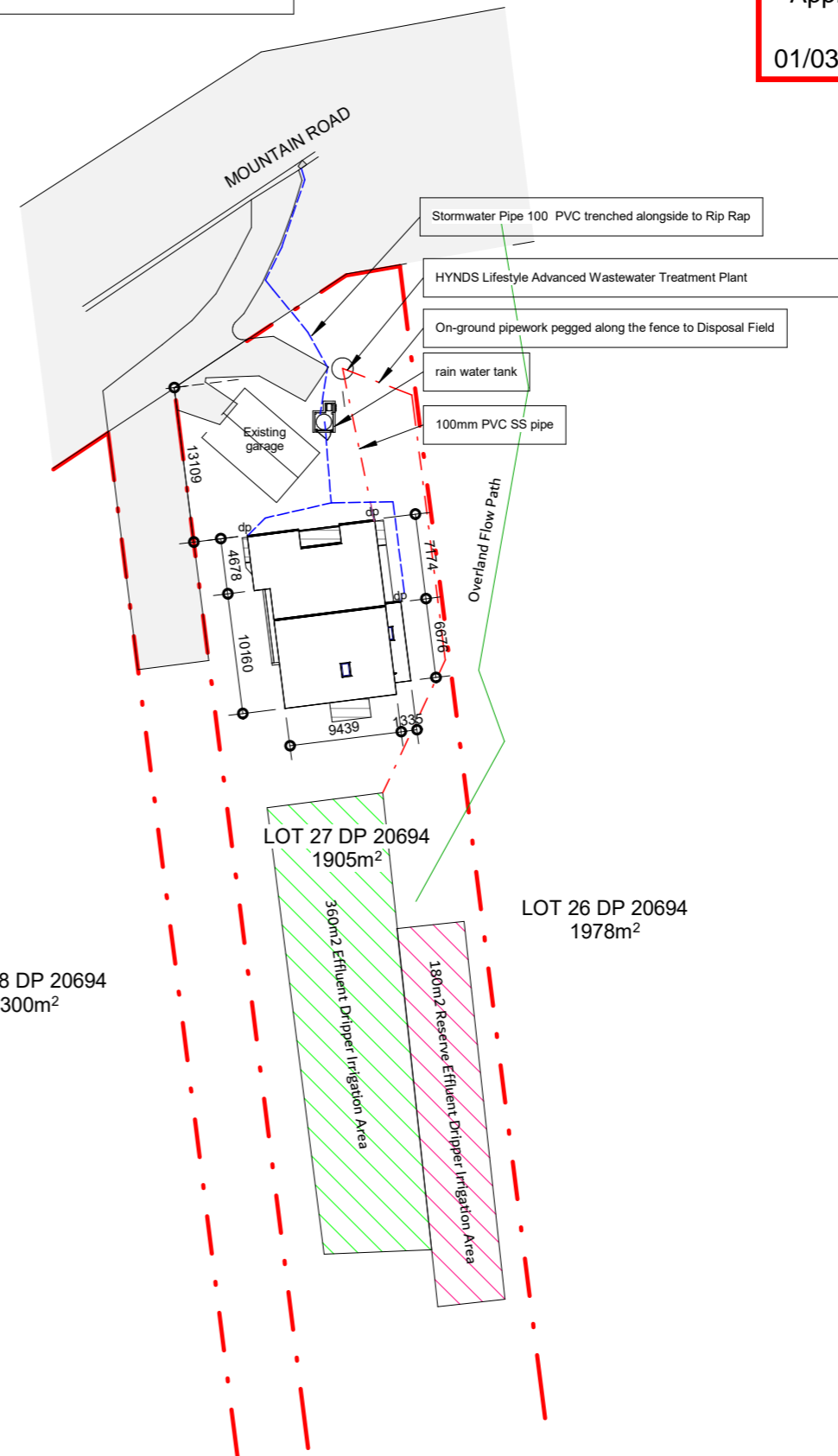
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 e-mail: anna@qcl.nz

70 Mountain Road	
Proposed Site Plan-2	
Issue	214
Drawn by	Author
Date Printed	11/12/2022
Revision No.	Checker
A1-4	
Scale	1 : 200

REFER TO CBA REPORT CBA-1210
PROPOSED DRAINAGE AND OVERLAND FLOW PATH SITE PLAN



Proposed Site Plan Manoeuvring
 SCALE @ A3 - 1 : 200 | SCALE @ A1 - HALVE A3 SCALE



Site Plan Drainage
 SCALE @ A3 - 1 : 500 | SCALE @ A1 - HALVE A3 SCALE

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70 Mountain Road

Site Drainage Plan/Manoeuvring

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A1-5

Scale As indicated



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H1 COMPLIANCE

This building complies with H1 by means of BRANZ Building Schedule Method

Minimum Requirements:

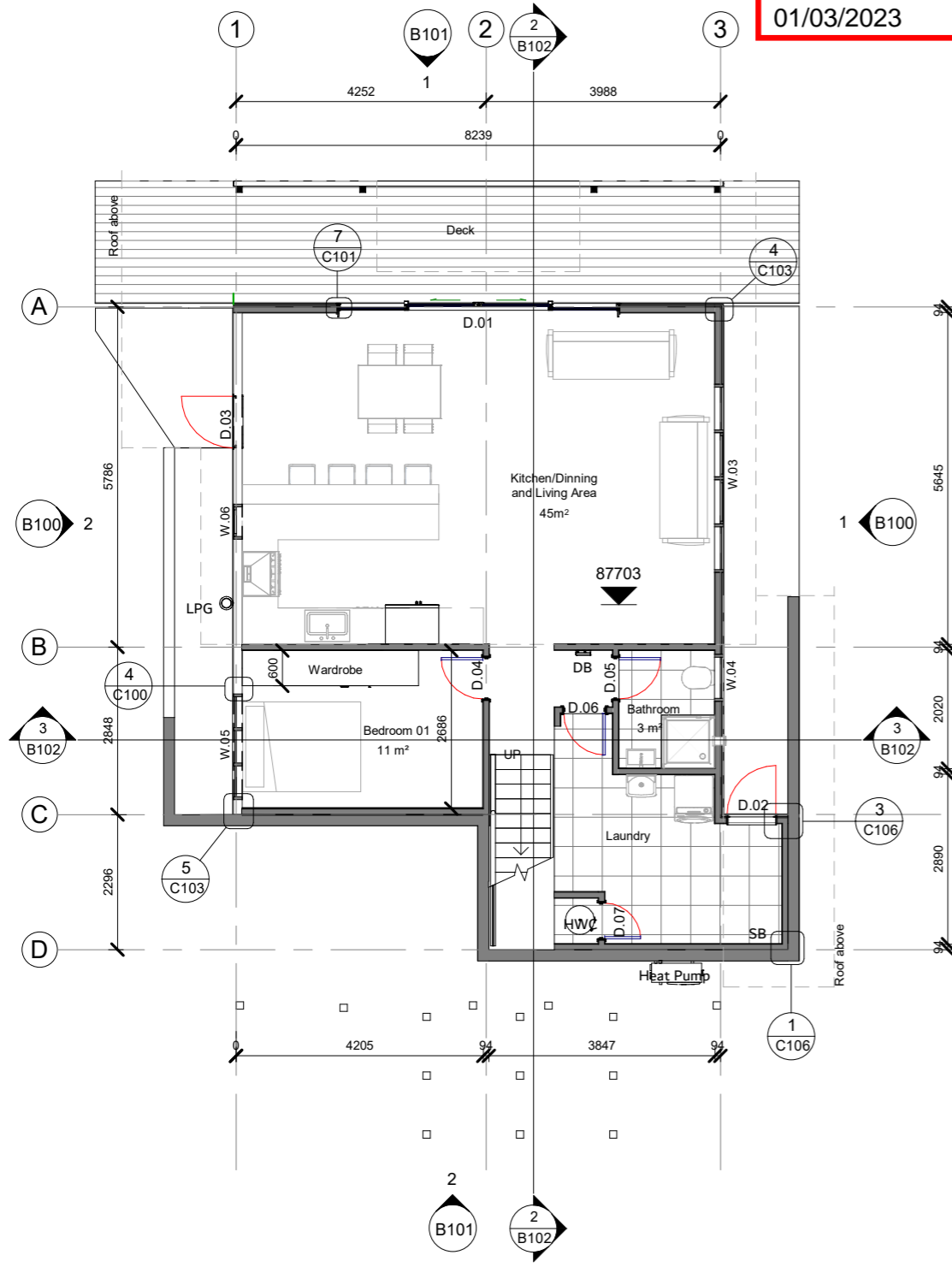
Roof: R1.9
Walls: R1.2
Floor: R1.3
Glazing: 0.26

Achieved Values:

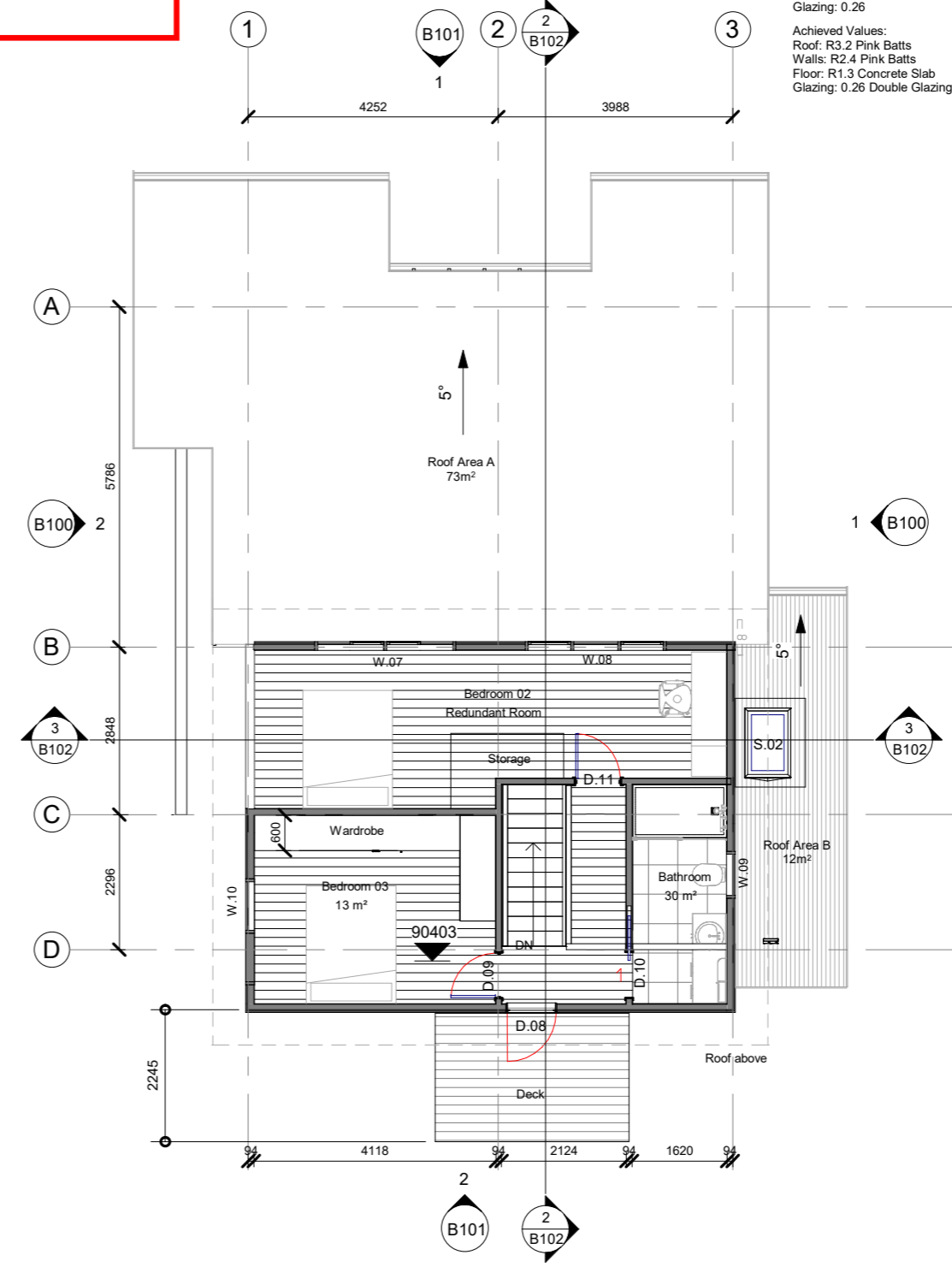
Roof: R3.2 Pink Batts
Walls: R2.4 Pink Batts
Floor: R1.3 Concrete Slab
Glazing: 0.26 Double Glazing

CONSTRUCTION NOTES

- Contractor shall verify all details and dimension on site before commencement of work
- Wall dimensions generally from face of wall framing unless noted
- Timber framing is to be SG8 H3.2 treated, unless noted otherwise
- All work is to comply with NZS 3604:2011, NZBC and other applicable standards and codes
- Provide selected DPC between all timber and concrete
- All fixings generally stainless steel, unless noted otherwise
- All other fixings in closed environments and in roof spaces to be hot dipped galvanized steel
- All flashings are to be mechanically fixed
- Tolerance to rough openings for doors & windows to be +10mm
- Wet area floor & walls that are to be tiled, are to be protected with Ardex WPM 002 Superflex liquid waterproofing membrane & installed by an approved installer



1 Ground Level
SCALE @ A3 - 1 : 100 | SCALE @ A1 - HALVE A3 SCALE



2 First Level
SCALE @ A3 - 1 : 100 | SCALE @ A1 - HALVE A3 SCALE

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70 Mountain Road

Proposed Floor Plans

Issue	214
Drawn by	Author
Date Printed	11/12/2022
Revision No.	Checker

A1-6

Scale As indicated



TOTAL EXCAVATION OUTSIDE SEA (NO CUT/FILL OUTSIDE SEA)		
EXCAVATION SPOIL REMOVED FROM SITE	DESCRIPTION	TOTAL
HYNDS treatment system	Excavate for tank installation	4.9m2 (5.25m3)
Trenching for SW	600 deep x 200 wide	1.35m3 (2.25m2)
TOTAL SPOIL REMOVED FROM SITE		6.6m3

TOTAL EXCAVATION INSIDE SEA		
CUT	FILL	NET CUT/FILL
HOUSE 54m2 (37.67m3)	41m2 (68.93m3)	31.25m3
SW TRENCHING 35.88m x .6m x .2m	10 piles @400 diam	REMOVAL FROM SITE
post/pile excavation		7.1m2 (4.3M3) 1.2m2 (1.43m3)
TOTAL REMOVED FROM SEA		5.73M3

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70 Mountain Road

Cut/Fill Detail

Issue 214

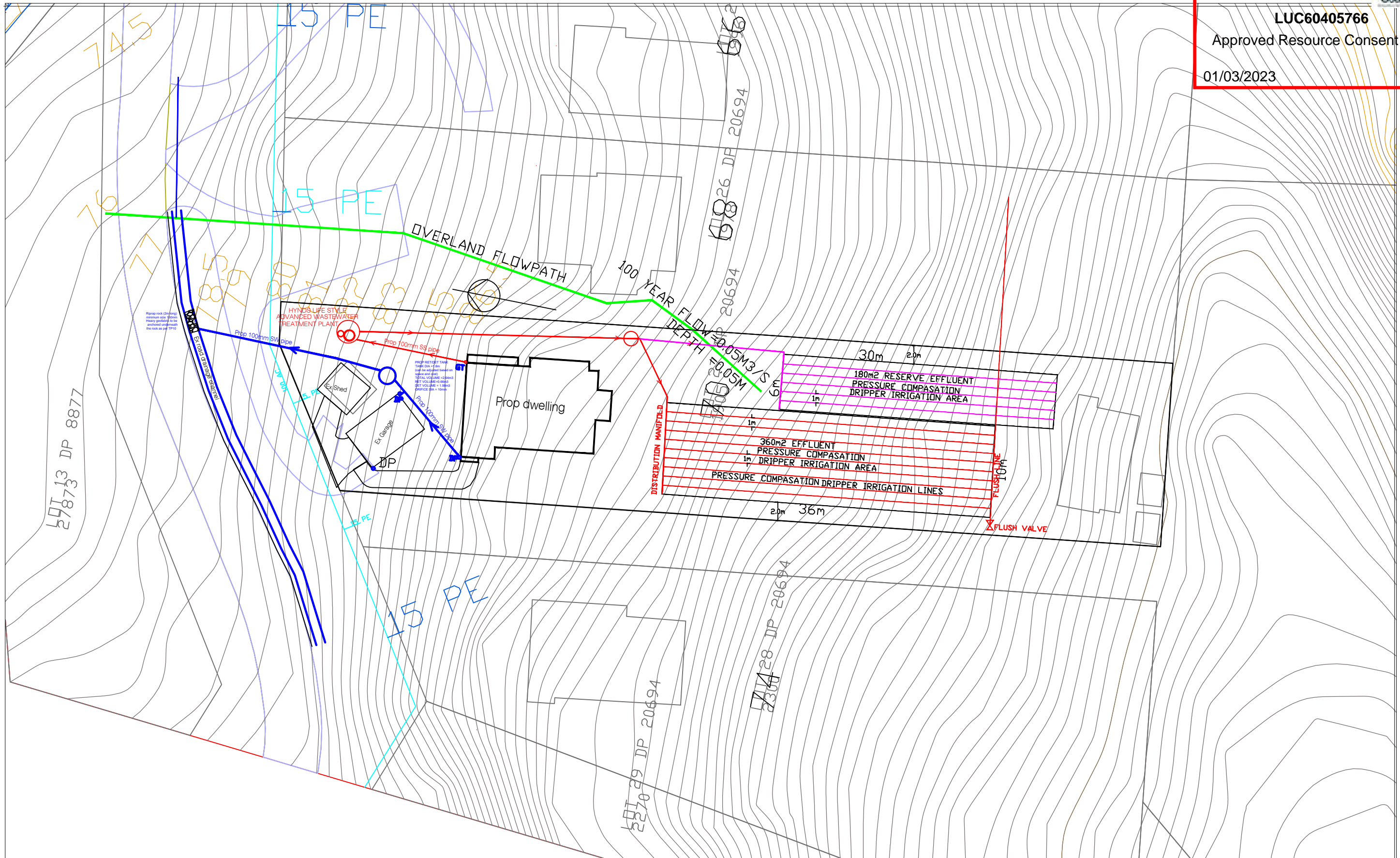
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Date Printed 11/12/2022

Revision No. Checker

A1-7

Scale 1 : 100



AMENDMENTS				
ISSUE	REVISION	BY	CHECK	DATE

DESIGNED	B. COULIBALY	DATE	18/1/2022
DRAWN	BC	DATE	18/1/2022
CHECKED		DATE	
APPROVED		DATE	

CBA CONSULTANTS
 LAND - WATER- ENVIRONMENTAL ENGINEERS
 26 Highland Ave, Titirangi, Auckland 0604
 Phone: (09)376-9668 ; (021)688-257
 Email: engineers@cbaconsultants.org

PROJECT NAME: 70 MOUNTAIN ROAD, HENDERSON VALLEY
 PLAN TITLE: PROPOSED DRAINAGE & OVERLAND FLOWPATH
 SITE PLAN

SCALE (A3):	1:400	FILE NO.	1210	ISSUE	A
REFERENCE DRAWING N°	CBA1210	DWG NO.	CBA1210	OF	3
CAD ARCHIVE S:\CBA CONSULTANTS\PROJECT					



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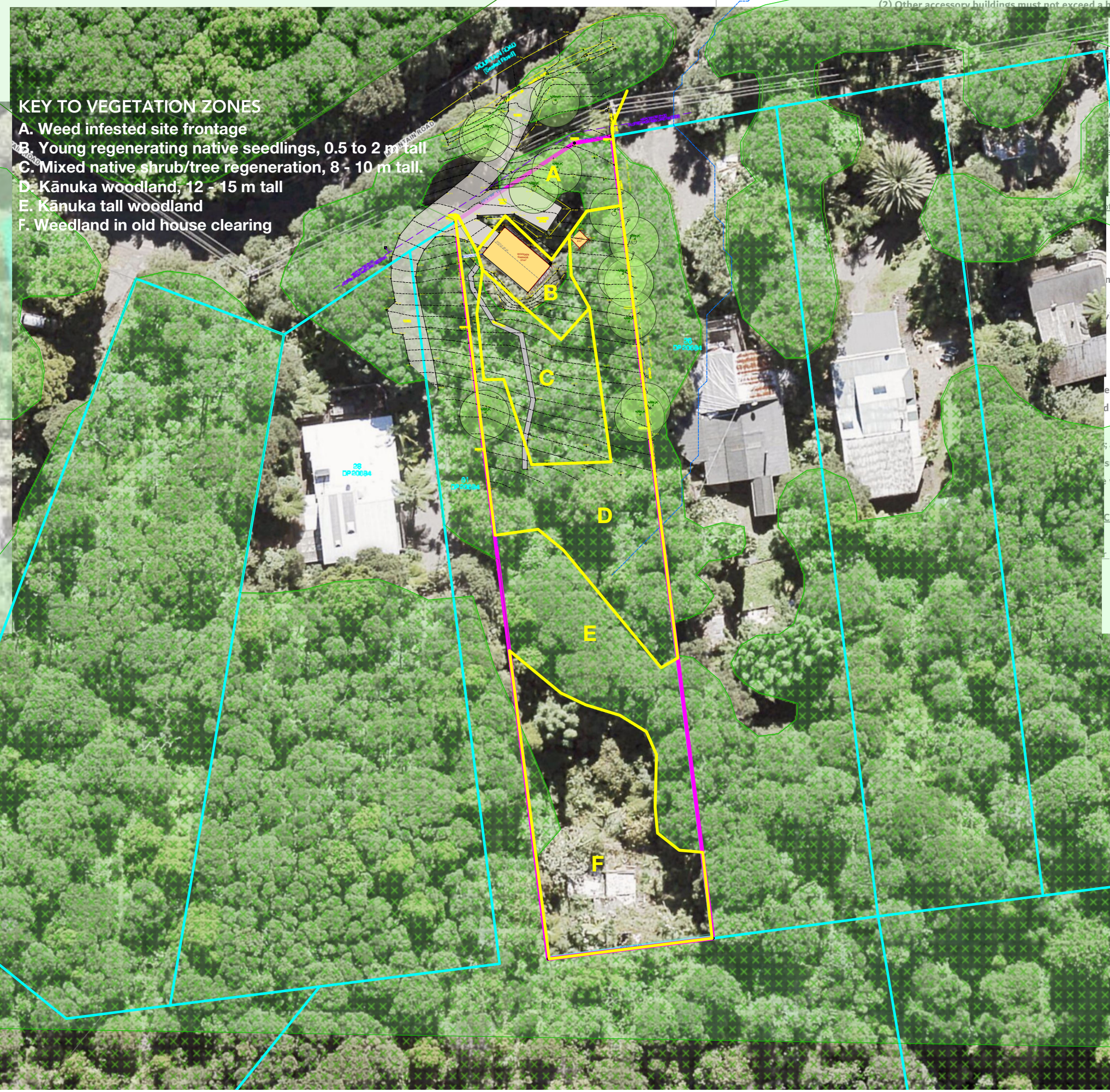
KEY TO VEGETATION ZONES

- A. Weed infested site frontage
- B. Young regenerating native seedlings, 0.5 to 2 m tall
- C. Mixed native shrub/tree regeneration, 8 - 10 m tall.
- D. Kānuka woodland, 12 - 15 m tall
- E. Kānuka tall woodland
- F. Weedland in old house clearing

KEY

- Surveyed location of existing kānuka tree
- Pale green area with green 'X' hatch is mapped extent of SEA

Aerial
SCALE @



FOR RESOURCE CONSENT PURPOSES

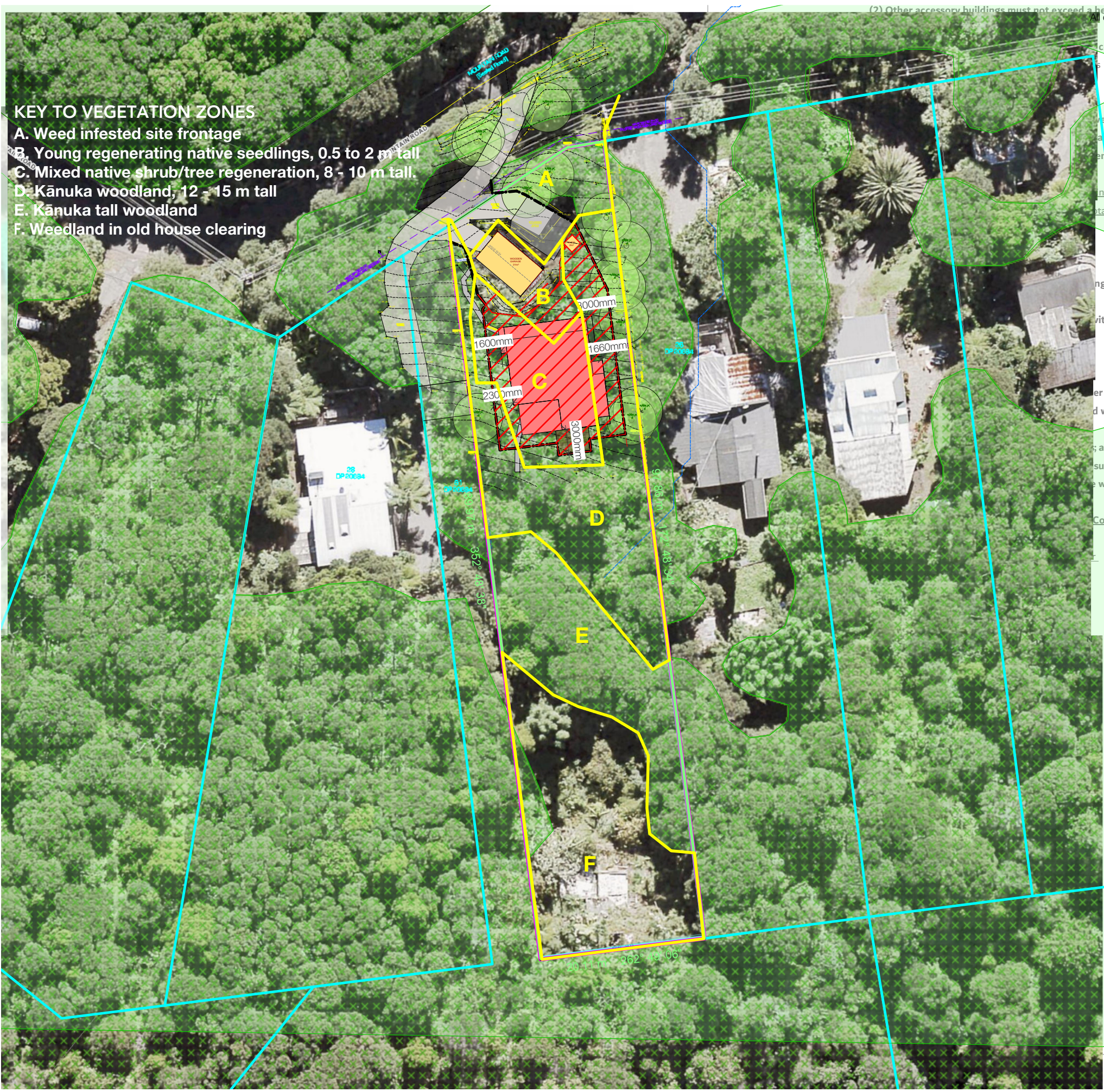
Client • Patrick Norton
Site • 70 Mountain Road

New residence
Vegetation zones overlaid on existing site survey

Revision/Issue	Date	Details	By

Drawing n°: **EA.01** Rev/Issue:
 Original sheet size: **A3**
 Scale: 1:500 at A3 1:xxx at A1
 Drawn by: NR
 Date: 14 11 22

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NICK ROBINSON
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 www.nickrobinson.co.nz



- KEY TO VEGETATION ZONES**
- A. Weed infested site frontage
 - B. Young regenerating native seedlings, 0.5 to 2 m tall
 - C. Mixed native shrub/tree regeneration, 8 - 10 m tall.
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 - E. Kānuka tall woodland
 - F. Weedland in old house clearing

- KEY**
- Temporary protective fence to retained SEA vegetation
 - Area of Clearance within SEA
Total 298 sq m

Dimensions do not scale

Dimensions on site

Planting products and fittings are to accordance with

FOR RESOURCE CONSENT PURPOSES

Client • Patrick Norton
Site • 70 Mountain Road

New residence

Proposed site plan and clearance over vegetation zones

Revision/Issue	Date	Details	By

Drawing n°: **EA.02** Rev/Issue:
 Original sheet size: **A3**
 Scale: 1:500 at A3 1:xxx at A1
 Drawn by: NR
 Date: 14 11 22

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PLANT MIXES & SCHEDULES

Mix	A - Weed and clearance restoration mix, part shade					B - low mix to garage and hardstanding		C - Low mix to house frontage + shrubs open		D - Low tussock mix + horoeka to house curtilage, part shade		F - Weed and clearing restoration mix, sun to part shade		Total all areas: A,B,C,D,F	Notes
	mix %	100 m2	mix %	18 m2	mix %	44 m2	mix %	67 m2	mix %	437 m2	666 m2				
NOTE all plants to be ecosourced from the local ecological district															
Species	common name	Pot size	ave spacing (m)	plant in groups of:	% cover	Plant Qty	% cover	Plant Qty	% cover	Plant Qty	% cover	Plant Qty	% cover	Plant Qty	Total
<i>Carex dissita</i>	bush sedge	1L	0.400	3 to 5	-	-	30.0%	34	20.0%	55	25.0%	105	-	-	193
<i>Carex lambertiana</i>	forest sedge	1L	0.450	3 to 5	-	-	25.0%	22	15.0%	33	25.0%	83	-	-	138
<i>Carex uncinata</i>	hook sedge	1L	0.400	3 to 5	-	-	10.0%	11	15.0%	41	20.0%	84	-	-	136
<i>Coprosma rhamnoides</i>	red-currant coprosma	1L	1.000	3 to 5	10.0%	10	-	-	7.5%	3	-	-	-	-	13
<i>Coprosma robusta</i>	karamu	1L	1.000	3 to 5	15.0%	15	-	-	-	-	15.0%	66	-	-	81
<i>Doodia australis</i>	rasp fern, pukupuku	1L	0.400	7 to 11	-	-	10.0%	11	-	-	-	-	-	-	11
<i>Gahnia setifolia</i>	cutty grass	1L	0.750	3 to 5	-	-	-	-	15.0%	12	15.0%	18	-	-	30
<i>Geniostoma rupestre</i>	hangehange	1L	1.000	3 to 5	-	-	-	-	-	-	10.0%	44	-	-	44
<i>Hoheria populnea</i>	houhere	1L	1.000	3 to 5	-	-	-	-	-	-	-	-	-	-	-
<i>Kurzea robusta</i>	kānuka	1L	1.000	3 to 5	15.0%	15	-	-	-	-	30.0%	131	-	-	146
<i>Leptospermum scoparium</i>	mānuka	1L	1.000	3 to 5	15.0%	15	-	-	5.0%	2	-	25.0%	109	-	126
<i>Machaerina sinclairii</i>	tuhara, pepepe	1L	0.600	3 to 5	-	-	25.0%	13	15.0%	18	15.0%	28	-	-	59
<i>Olearia furfuracea</i>	Akepiro	1L	1.000	3 to 5	15.0%	15	-	-	7.5%	3	-	-	-	-	18
<i>Piper excelsum</i> subsp. <i>excelsum</i>	kawakawa	1L	1.000	3 to 5	15.0%	15	-	-	-	-	10.0%	44	-	-	59
<i>Pseudopanax lessonii</i>	houpara	1L	1.000	3 to 5	15.0%	15	-	-	-	-	10.0%	44	-	-	59
<i>Pseudopanax crassifolius</i>	horoeka	1L	1.000	3 to 5	-	-	-	-	15.0%	10	-	-	-	-	10
TOTAL					100.0%	100	100.0%	91	100.0%	168	100.0%	317	100.0%	437	1,113

PLANTING SPECIFICATION

All plants and other materials are to be approved before delivery to site or before use. All setting out to be approved by the Landscape Architect (LA). All plant placement is to be approved by the LA before planting starts. The Contractor shall give 48 hours notice of setting out inspections.

No vehicle access is permitted on vegetation or planting areas.

The site to be entirely reinstated to its prior condition on completion and all rubbish and debris to be removed.

Timing of works (including reinstatement)
Planting: May—August only, and in mild and moist weather.

Site preparation
Destroy and remove all weed pest plants and other invasive exotic species before planting.

Use hand methods where needed, for example in small confined areas and under trees. Do not cultivate beneath the canopies of existing trees or shrubs.

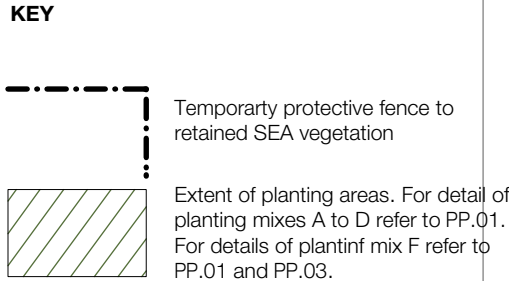
Remove all compaction caused by construction activities. Excavate and remove off site all compacted ground and all construction materials and replace with approved local imported and consolidated but not compacted topsoil.

Cultivations
Do not cultivate in bush areas and around the roots of exting trees.

Planting
Plant all trees, shrubs and plants in pits of minimum size sufficient to allow planting without distorting the rootball. The pit sides and base are to be broken up to allow root and water penetration and the pit backfilled with topsoil..

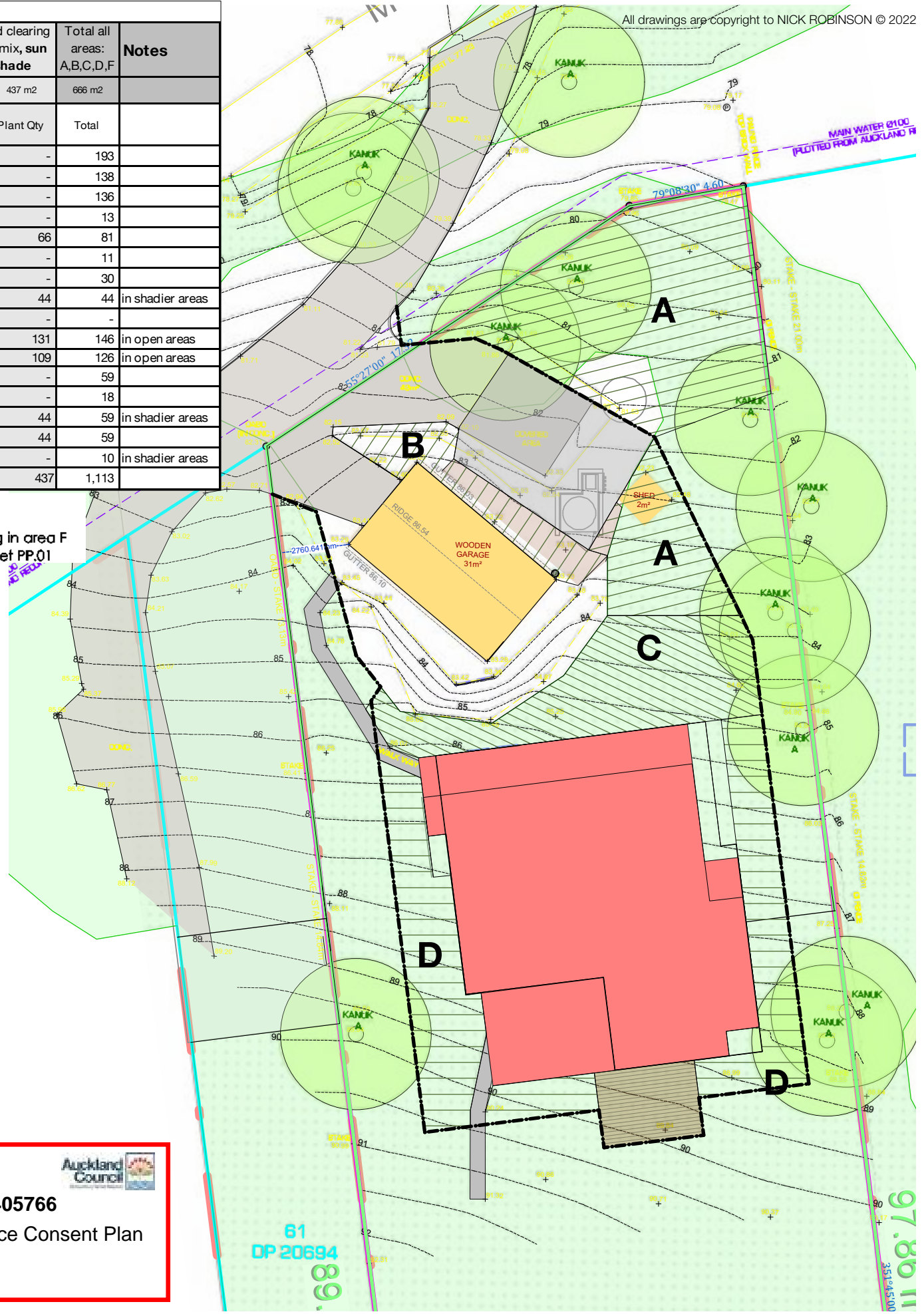
Establishment: REFER ALSO TO ESTABLISHMENT SCHEDULE on PP.02
Mulching is not required. Maintain all planted areas completely weed-free for five years after Practical Completion of the planting or until the planting canopy has closed and weed is suppressed. All pest plants must be removed as soon as discovered.
After planting, replace all failed plants to the original specification as soon as discovered or, if discovered during the non-planting season, replace in the May or June of the planting season following their loss.

NOTE: Successful establishment shall mean a minimum of 90% plant survival of 80% canopy cover measured by ground area at the end of the establishment period. If the site does not meet this specification, replanting and establishment work shall continue until the criteria for successful establishment are satisfied.



NOTES

For planting in area F refer to sheet PP.01



Auckland Council

LUC60405766

Approved Resource Consent Plan

01/03/2023

Client • Patrick Norton
Site • 70 Mountain Road

New residence
Planting plan for SEA enhancement

B	3 2 23	schedule	NR
A	23 1 23	schedule, notes	NR
Revision/Issue	Date	Details	By

Drawing n°: **PP.01** Rev/Issue: B
Original sheet size: **A3**
Scale: 1:200 at A3 1:100 at A1
Drawn by: NR
Date: 15 11 22

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ESTABLISHMENT SCHEDULE												
NOTE: For details of methodology and materials refer to Landscape Establishment Specification					Planting Season							
Year 0 Preparation and planting												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Site Preparation			prep	prep						weeding visit		
Planting				planting season, May-early Jun preferred						check pests & diseases		
Check for watering requirements and water as needed for survival									check water	check water	check water	
Establishment Year 1												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Weed control		weeding visit		weeding visit				weeding visit		weeding visit		
Check for pest and disease damage, advise on measures if required		check pests & diseases		check pests & diseases						check pests & diseases		
Check for watering requirements and water as needed for survival	check water	check water	check water						check water	check water	check water	
Infill planting and replacement of any losses				re-planting								
Establishment Year 2												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Weed control		weeding visit		weeding visit				weeding visit		weeding visit		
Check for pest and disease damage, advise on measures if required		check pests & diseases		check pests & diseases				check pests & diseases		check pests & diseases		
Check for watering requirements and water as needed for survival	check water	check water	check water						check water	check water	check water	
Infill planting and replacement of any losses				re-planting								
Establishment Year 3												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Weed control/releasing where needed		weeding visit		weeding visit						weeding visit		
Check for pest and disease damage, advise on measures if required		check pests & diseases		check pests & diseases						check pests & diseases		
Check for watering requirements and water as needed for survival	check water	check water	check water						check water	check water	check water	
Infill planting and replacement of any losses				re-planting								
Establishment Year 4												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Weed control/releasing where needed		weeding visit								weeding visit		
Check for pest and disease damage, advise on measures if required		check pests & diseases								check pests & diseases		
Should be no need for watering at this stage of establishment, but check after two weeks without rain		check water								check water		
Infill planting and replacement of any losses				re-planting								
Establishment Year 5												
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Weed control/releasing where needed		weeding visit								weeding visit		
Check for pest and disease damage, advise on measures if required		check pests & diseases								check pests & diseases		
Should be no need for watering at this stage of establishment, but check after two weeks without rain												
Infill planting and replacement of any losses				re-planting								

grey cell = action month
yellow cell = action month if required

LANDSCAPE ESTABLISHMENT SPECIFICATION

1. Establishment period

The Establishment period shall be 5 years from the date of completion of planting. Also refer to the establishment schedule on this sheet. The site is to be maintained at the standard specified below. The tasks and visits enumerated are the **minimum** requirement.

2. Site inspection - establishment and maintenance visits

It is the consent holder's responsibility to arrange for whatever visits and works may be needed to maintain the site at the specified standard. The Maintenance Contractor or staff engaged by the consent holder shall visit the site no at intervals shown on the Establishment Schedule to carry out necessary assessment, reporting, establishment and maintenance works as scheduled in the Establishment Schedule. Monthly visits are required during some periods of the year as shown in the Establishment Schedule. The precise timing of these visits will also be subject to the needs of the works and the weather.

3. Irrigation

A permanent irrigation system is not required, however, means for watering during the establishment period are necessary. This shall be either a surface laid irrigation system or hose pipes connected to site taps and or a bowser.

Following any period of two weeks without significant rainfall during October, November, December, January, February, March and April, the planting must be inspected for water stress. Within two working days of when signs of water stress such as wilting or discolouration first become evident, all the planting areas must be irrigated at the following rates through a low pressure hose or irrigation system at ground level.

- 5 litres per plant less than PB 12 size
- 10 litres per larger plant PB 12 and larger
- 20 litres per specimen tree 25 Litre or larger.
- Take care to avoid surface run off during watering.

4. Weed management

Standard: All planted areas are to be maintained weed-free as defined below for the establishment period.

All cultivated planted areas shall be kept weed free so that perennial weed species are entirely eradicated and annual weed species are controlled to prevent them from seeding. The site shall be entirely i.e. 100% weed-free on completion of each maintenance/establishment visit.

Care shall be taken during weeding to avoid disturbance of the shrub roots or excessive compaction of the bed surface. The Contractor shall remove all litter and other debris and dispose off-site at the end of each visit.

Additional weed control may be required in spring when the ground warms and seeds in the soil germinate.

Methods: Weed control shall be carried out by the application of approved herbicides, approved mulch, mechanical means and hand weeding. Weed control shall be timed to minimise the setting and spread of weed seed and other propagules on site. All weed material shall be removed from site to an approved location.

Where weed growth, for whatever reason, has become taller than allows efficient treatment with herbicide and cannot be fully removed by hand, it shall be cut to 200 mm height with a weed eater or by hand before applying an approved systemic herbicide.

5. Pest management

It is the consent holder's responsibility to establish the vegetation and control any pests that may prevent successful establishment. If any significant possum or rabbit damage to new planting is observed, approved traps or bait stations shall be installed at no greater than 200 m apart throughout the planted areas. These shall be inspected on a weekly basis and re set as necessary for the duration of the Establishment Period

6. Replacement of losses

Replace all failed plants for three years after planting and until a minimum 80% dense canopy closure has been achieved.

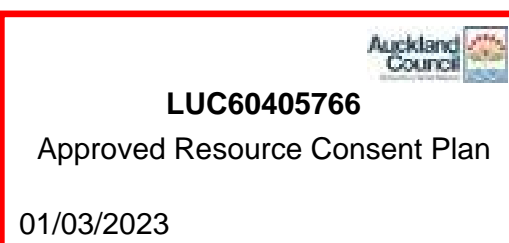
Replacement shall be to the original specification with the original species and cultivars and carried out as soon as loss is discovered or, if discovered during the non-planting season, shall be replace in the May or June of the planting season following their loss.

NOTE: Successful establishment shall mean a minimum of 80% plant survival of 80% canopy cover measured by ground area at the end of the establishment period.

FOR RESOURCE CONSENT PURPOSES

Client • Patrick Norton
Site • 70 Mountain Road

New residence
Establishment schedule and specification



Revision/Issue	Date	Details	By

Drawing n°: **PP.02** Rev/Issue:
Original sheet size: **A3**
Drawn by: **NR**
Date: **15 Nov 22**

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PLANT MIXES & SCHEDULES

Mix					F - Weed and clearing restoration mix, sun to part shade		Total all areas: A,B,C,D,F	Notes
NOTE all plants to be ecosourced from the local ecological district					mix %	437 m2	666 m2	
Species	common name	Pot size	ave spacing (m)	plant in groups of:	% cover	Plant Qty	Total	
<i>Carex dissita</i>	bush sedge	1L	0.400	3 to 5		-	193	
<i>Carex lambertiana</i>	forest sedge	1L	0.450	3 to 5		-	138	
<i>Carex uncinata</i>	hook sedge	1L	0.400	3 to 5		-	136	
<i>Coprosma rhamnoides</i>	red-currant coprosma	1L	1.000	3 to 5		-	13	
<i>Coprosma robusta</i>	karamu	1L	1.000	3 to 5	15.0%	66	81	
<i>Doodia australis</i>	rasp fern, pukupuku	1L	0.400	7 to 11		-	11	
<i>Gahnia setifolia</i>	cutty grass	1L	0.750	3 to 5		-	30	
<i>Geniostoma rupestre</i>	hangehange	1L	1.000	3 to 5	10.0%	44	44	in shadier areas
<i>Hoheria populnea</i>	houhere	1L	1.000	3 to 5		-	-	
<i>Kunzea robusta</i>	kānuka	1L	1.000	3 to 5	30.0%	131	146	in open areas
<i>Leptospermum scoparium</i>	mānuka	1L	1.000	3 to 5	25.0%	109	126	in open areas
<i>Machaerina sinclairii</i>	tuhara, pepepe	1L	0.600	3 to 5		-	59	
<i>Olearia furfuracea</i>	Akepiro	1L	1.000	3 to 5		-	18	
<i>Piper excelsum</i> subsp. <i>excelsum</i>	kawakawa	1L	1.000	3 to 5	10.0%	44	59	in shadier areas
<i>Pseudopanax lessonii</i>	houpara	1L	1.000	3 to 5	10.0%	44	59	
<i>Pseudopanax crassifolius</i>	horoeke	1L	1.000	3 to 5		-	10	in shadier areas
TOTAL					100.0%	437	1,113	

PLANTING SPECIFICATION

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Timing of works (including reinstatement)

Planting: May—August only, and in mild and moist weather.

Site preparation

Destroy and remove all weed pest plants and other invasive exotic species before planting.

Use hand methods where needed, for example in small confined areas and under trees. Do not cultivate beneath the canopies of existing trees or shrubs.

Remove all compaction caused by construction activities. Excavate and remove off site all compacted ground and all construction materials and replace with approved local imported and consolidated but not compacted topsoil.

Cultivations

Do not cultivate in bush areas and around the roots of exting trees.

Planting

Plant all trees, shrubs and plants in pits of minimum size sufficient to allow planting without distorting the rootball. The pit sides and base are to be broken up to allow root and water penetration and the pit backfilled with topsoil..


Establishment: REFER ALSO TO ESTABLISHMENT SCHEDULE on PP.02

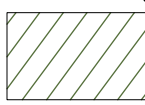
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KEY

 Temporary protective fence to retained SEA vegetation

 Extent of planting areas. For detail of planting mixes A to D refer to PP.01. For details of planting mix F refer to PP.01 and PP.03.

NOTES

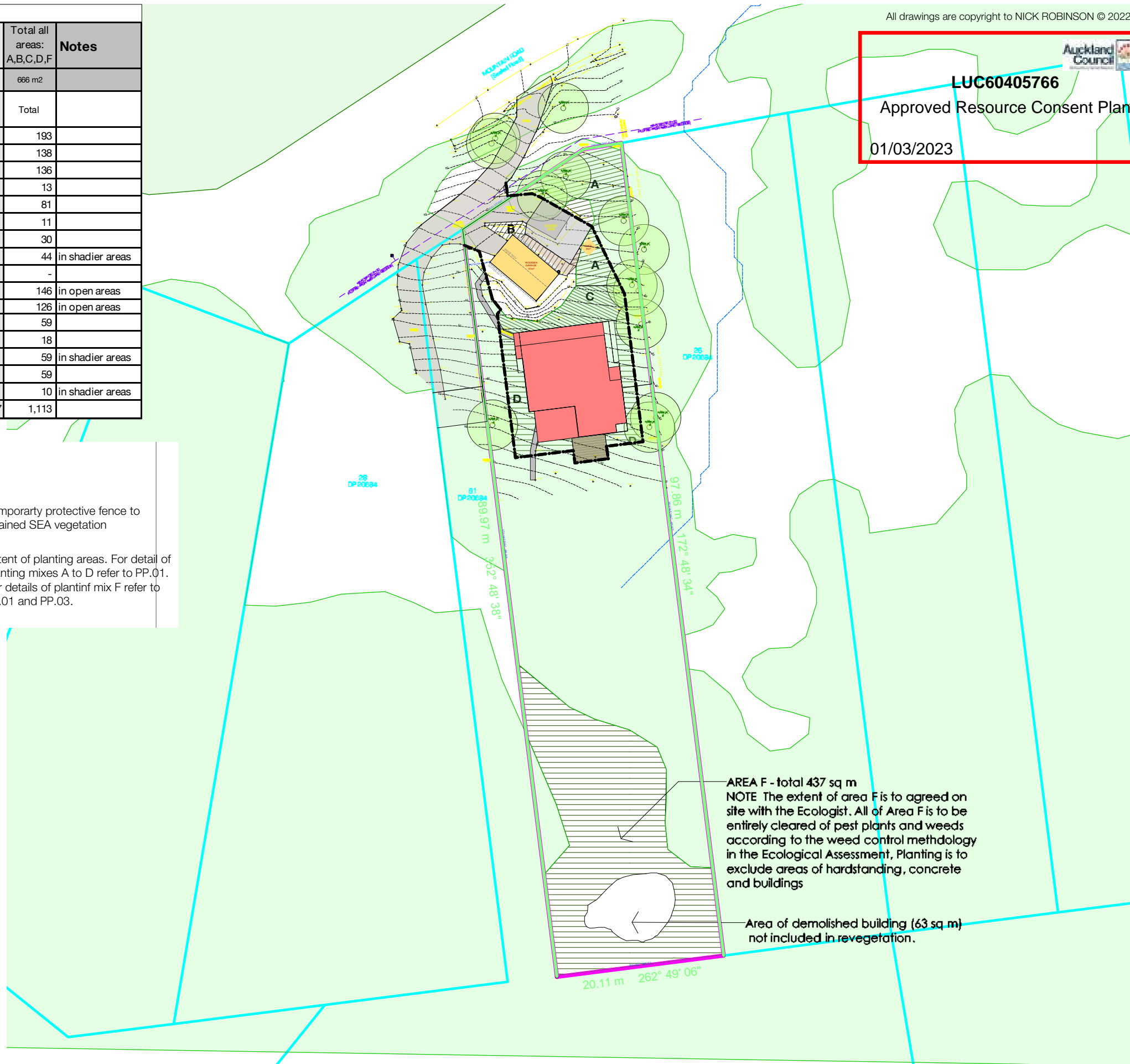
For planting in areas A, B, C and D refer to sheet PP.01



LUC60405766

Approved Resource Consent Plan

01/03/2023



AREA F - total 437 sq m
NOTE The extent of area F is to agreed on site with the Ecologist. All of Area F is to be entirely cleared of pest plants and weeds according to the weed control methodology in the Ecological Assessment, Planting is to exclude areas of hardstanding, concrete and buildings

Area of demolished building (63 sq m) not included in revegetation.

FOR RESOURCE CONSENT PURPOSES

Client • Patrick Norton
Site • 70 Mountain Road

New residence
Planting Plan - Zone F

A	3 2 23	Area F and schedule	NR
Revision/Issue	Date	Details	By

Drawing n°: **PP.03** Rev/Issue: A
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