

IN THE MATTER OF

THE RESOURCE MANAGEMENT ACT 1991

AND IN THE MATTER OF

**AN APPLICATION FOR SUBDIVISION AND
LAND USE CONSENT FOR THE AMBERFIELD
DEVELOPMENT**

BETWEEN

WESTON LEA LIMITED

Applicant

AND

HAMILTON CITY COUNCIL

Consent Authority

**STATEMENT OF EVIDENCE OF ALLAN JOHN PEARSON AND ANDREA ELIZABETH GRAVES OF
THE RIVERLEA ENVIRONMENT SOCIETY INC**

Dated: 1st May 2019

Counsel: Phil Lang

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1. Introduction

This evidence is given by Allan Pearson and Andrea Graves. We are giving this evidence on behalf of the Riverlea Environment Society Inc. (RESI). RESI is a voluntary community organisation that carries out forest restoration in Hammond Park in conjunction with Hamilton City Council. Hammond Park is located directly across the river from the proposed Amberfield site.

2. Scope of Evidence

This evidence addresses the following matters:

- a. History and role of the Submitter
- b. The protection of the Significant Natural Areas (SNAs) in Hammond Park.
- c. The importance of comprehensive data about bats' use of the proposed Amberfield site.
- d. The Peacocke Structure Plan provisions for ecological reserves, and their history.
- e. The riverside reserve: the Applicant's proposal and the optimal design.
- f. Staging and timing of urban development
- g. Suggested consent conditions if consent is granted.

In preparing this evidence we have read relevant parts of:

- The original application by Weston Lea Ltd
- The HCC Section 92 report
- The additional information post-notification
- The HCC Section 42A report and appendices
- The Applicant's evidence
- The Peacocke Structure Plan Hearing Report 2009
- The joint statement of the ecology witnesses
- The Operative District Plan.
- Evidence by Department of Conservation experts.

We have engaged experts in the field of ecology and urban ecological restoration (Professor Bruce Clarkson) and bat ecology (Dr Rebecca Stirnemann), and their evidence should be read as part of this evidence. We have also engaged legal counsel Phil Lang and the assistance of planner Kirsty Graveling.

We are familiar with the site from maps, aerial imagery, the view from the eastern side of the river and accessible roads.

Our 28 September 2018 submission (no.72 [at this link](#)) on the consent application made these principal points:

- The proposed residential roading and housing is too close to the river, contrary to the Peacocke Structure Plan;
- The adverse effects on long-tailed bats will be significant;
- The lack of green corridor between Mangakotukutuku Gully and the Waikato River;
- The inappropriate modifications of landforms.

3. RESI Background

RESI was formed in 2007 out of a community campaign to successfully halt the construction of an asphalt plant close to Riverlea Road. To prevent a similar reoccurrence, RESI has since been instrumental in changes made to restrict the scope of permissible activities within the Riverlea industrial area.

However, our main focus has been on maintaining and improving the ecological health of Hammond Park. Together with an earlier predecessor organisation (HEIRS), the Riverlea community has operated in Hammond Park for almost 20 years. Under the guidance of the HCC we have worked to implement the Restoration Plan for Hammond Bush¹ through monthly weeding and planting working bees with ongoing participation by the Riverlea community and from further afield.

In 2017, Pest-Free Riverlea was formed under the auspices of RESI and was selected as a Kiwibank Predator Free Community. We maintain 128 traps in Hammond Park and throughout suburban Riverlea, with the number still increasing. In 2016, supported by funding from the Waikato Regional Council, we contracted a part-time Conservation Co-ordinator. The Co-ordinator works with householders in properties adjacent to the Waikato River and the Riverlea gully system to clear weeds and restore native vegetation, hence increasing the effective ecological footprint of Hammond Bush. In 2018 the Co-ordinator initiated twice-monthly working bees to manually remove *Trandescantia*, one of our major weed species, from Hammond Bush.

In 2007 we submitted on the Variation 14, the Peacocke Structure Plan, regarding the need for wide buffer on the west side of the Waikato River to protect and enhance the established biodiversity of Hammond bush.

We have had roles in Project Echo, Pest Free Hamilton, the Biodiversity Strategy for Hamilton City, hosted dignitaries, provided educational opportunities for families, and conducted community bat and glow worm tours through Hammond bush. As part of our guardianship role we have been consulted on aspects of the Southern Links work programme and the Te Awa River Ride.

4. Hammond Park

4.1 Brief History of Hammond Park

For centuries the Peacocke and Riverlea areas in southern Hamilton have been intensively utilised by Māori.^{2,3} Multiple pa sites are present on both sides of the

¹ Stephens, D.W.; Clarkson, B.D.; Downs, T.M. 2000: A Restoration Plan for Hammond Bush. CBER Contract Report 4. Prepared for Hamilton City Council, April 2000. Centre for Biodiversity and Ecology Research, Department of Biological Sciences, The University of Waikato, Hamilton. 9pp.

² Boffa Miskell Limited 2018. [Amberfield Subdivision Cultural Impact Assessment](#). Report prepared by Boffa Miskell Limited for Weston Lea Limited

³ Gumbley W. & Laumea M. (2018) [Amberfield—Assessment of Archaeological Values and Effects](#).

river⁴ and the surrounding fertile slopes were largely deforested and extensively utilised for food production.⁵ Following the end of the Land Wars in the 1860s, Captain James McPherson of the 70th Regiment was allocated a property in Hamilton East he called Riverlea. Over the following decades at Riverlea, and simultaneously with Weston Lea across the Waikato River, the remaining indigenous vegetation was cleared for farming. Fortuitously, however, a fragment of the original Riverlea bush survived – swampy, south facing and of little value for pastoral production. As Hamilton expanded, the Riverlea farm was subdivided from the 1960s. The bush, together with a thin strip of adjoining land along the riverbank, was vested as a reserve with the Hamilton City Council and named Hammond Park.

Hammond bush has a number of uniquely valuable ecological features including swamp-adapted species of plants now rare in the Hamilton Basin ([Professor Clarkson's evidence](#), 4.4) while also sustaining a population of long-tailed bats (*Chalinolobus tuberculatus*). Although we cannot know for sure, bats are likely to have been present in Hammond bush throughout the nineteenth and twentieth centuries, contributing to their survival within the southern Hamilton region.

As one of the two extant bat species in New Zealand, populations of long-tailed bats, especially where predator control is absent, have been on a precipitously downwards trajectory.^{6,7,8} Around northern Hamilton, for example, the known bat population has been deleted by urbanisation in recent decades. This precarious position has been recognised by elevation of their conservation threat status to “nationally critical”.⁹ There is no category of threatened species at greater risk of extinction, and a 70% decline over the next three generations is predicted (see [Ms Pryde's evidence](#), 4.3).

While the ecological health of Hammond bush has greatly improved, especially in the last 20 years due to expansion into adjacent areas as well as weed and pest control, it is too small to be truly sustainable without continuous active management. Hence the addition of a reconstituted Waikato lowland forest across the river at Amberfield would be of immense ecological value as well as protecting an important habitat for the long-tailed bat.

⁴ [“Nga Tapuwae O Hotumauea” Maori Landmarks on Riverside Reserves Management Plan](#), Hamilton City Council, April 2003.

⁵ Gumbley W. & Laumea M. (2018) [Amberfield—Assessment of Archaeological Values and Effects](#).

⁶ Pryde MA, O'Donnell CFJ, Barker RJ 2005. Factors influencing survival and long-term population viability of New Zealand long-tailed bats (*Chalinolobus tuberculatus*): implications for conservation. *Biological Conservation* 126: 175-185.

⁷ Pryde MA; Lettink M; O'Donnell CFJ 2006. Survivorship in two populations of long-tailed bats (*Chalinolobus tuberculatus*) in New Zealand. *New Zealand Journal of Zoology* 33: 85- 89.

⁸ C.F.J. O'Donnell, K.M. Borkin, J.E. Christie, B. Lloyd, S. Parsons and R.A. Hitchmough. (2017) [Conservation status of New Zealand bats](#), 2017. New Zealand Threat Classification Series 21. 4 p.

⁹ C.F.J. O'Donnell, K.M. Borkin, J.E. Christie, B. Lloyd, S. Parsons and R.A. Hitchmough. (2017) [Conservation status of New Zealand bats](#), 2017. New Zealand Threat Classification Series 21. 4 p.

4.2 Protecting SNAs from adverse effects

Hammond Park contains three Significant Natural Areas, numbers 49, 50 and 51. SNAs 49 and 51 (named Hammond Bush and Gully near Hammond Bush II respectively) meet several SNA criteria, one of which is “criteria 3” because they are feeding sites for the long-tailed bat (Criteria 3 - Threatened or Endemic Species Habitat).¹⁰

The Mangaonua gully, which enters the Waikato River opposite the proposed Amberfield site and adjoins Hammond Park, contains SNAs 53, 57, 58 and 59. These also meet criteria 3. Appendix A shows the locations of these SNAs.

The use of Hammond Park by long-tailed bats continues, as was recorded in the most recent AECOM survey (December 2018 to March 2019). It is heavily used as a food source, with bats commuting across Amberfield from roosts in the west, east and south (AECOM ref). Additionally, Dr Borkin’s evidence (59) states that “At this location, bats were observed both crossing the river to and from Hammond Park, and traversing along the river-side vegetation (pers. obs.).”

But will this use of Hammond Park continue if the Amberfield development goes ahead as it is currently proposed? Expert evidence shows that poorly planned urbanisation in Peacocke will potentially result in adverse effects on bat usage of Hammond Park due to disrupted feeding corridors:

- [Dr Stirnemann’s evidence](#), 8.1: Hammond Park is particularly important. The loss of connectivity and/or buffering to these sites is likely to result in the loss of the bat population.
- [Dr Stirnemann’s evidence](#), 5.1: “I consider the effects of this time lag to be so substantive that it will create long term impacts which may not only lead to “the loss of habitat and a reduction in the long -tailed bat population in Hamilton,” as specified by the HCC ecologist, but could lead to long term permanent loss of the long tailed bat population in Hamilton.”
- Applicant’s original [Terrestrial Ecological Assessment](#), p 52: “These disturbance effects have the potential to also significantly impact and change the characteristics of the dispersal corridors and high value habitats close to the development site.”
- [S92 response](#), question 70: “Lighting and noise disturbance which extends into key roosting habitats for the Hamilton long-tailed bats such as Hammond Park also has the potential to alter roost emergent timing and behaviour, disrupt social interactions, and ... cause the avoidance of once valuable habitats”.
- [Mr Kessel’s s 42A evidence](#), 62: “Without appropriate buffering, the increased light spill (and noise disturbance) from the development will impact feeding, commuting and roosting habitat of bats in the high-value long-tailed bat commuting corridors and habitats adjacent to the site, including the known

¹⁰ Cornes, T.S., Thomson, R.E. & Clarkson, B.D. (2012). [Key ecological sites of Hamilton City: Volume 1](#). CBER Contract Report No. 121, prepared for Hamilton City Council. Hamilton, New Zealand: Centre for Biodiversity and Ecology Research, The University of Waikato

important roosting site at Hammond Park, the Mangakotukutuku Gully, and Stanford Park.”

Therefore, the ability of Hammond Park’s Significant Natural Areas to support long-tailed bats is at risk from urban development at the proposed Amberfield site and the consequent deletion of commuter corridors.

This is not in accordance with the Operative District Plan policies **20.2.1c**, *The particular values and characteristics that make an area a Significant Natural Area shall be protected from adverse effects ...* ; **20.2.1d** *Adverse effects of development on the City’s Significant Natural Areas shall be avoided.*; **20.2.1e** *The reduction, fragmentation and isolation of indigenous ecosystems and habitats shall be avoided.*

The disappearance of bats from Hammond Park or substantial reduction of that presence would destroy one of the most cherished characteristics of the Hammond Park SNAs. Under the District Plan all practical steps **must be taken to avoid** this outcome. These steps could include, but are not limited to:

- A wide, dense forest reserve on the west bank of the Waikato River shielding Hammond Park from light and disturbance;
- Delay of development of the Amberfield site until such time as the reforestation of the west bank has developed sufficiently to provide an effective shield (see [Professor Clarkson’s evidence](#));
- Protection of bat commuting corridors to the south and the east along their entire lengths;
- Preserving all roost trees on the proposed Amberfield site;
- Protection of roost sites from predators on the proposed Amberfield site and in the wider Peacocke development area;
- Specialised street lighting and restrictions on multi-storeyed housing close to the river to reduce lighting levels across the river and at Hammond Park to 0.1 lux. Car and house lights may also be a problem and planting plans should address this.

5. The need for reliable baseline data

The DOC experts, Dr Kessels ([s 42A report](#) 67), and [Dr Stirnemann](#) (12) all agree that an insufficient level and range of bat monitoring has been carried out by the Applicant to establish how fully the site is being used. This is a major lapse by the Applicant; given section 6(c) RMA, the strong ‘avoid’ policy direction in the District Plan, and the critically threatened status of the bats, it is imperative that sufficient information is provided to decisionmakers.

The evidence from [Ms Pryde](#) (6.2–6.4) and [Dr Borkin](#) (44) adds information about bats’ use of Amberfield that was provided by parties other than the Applicant. This makes it clear that the Amberfield area is far more heavily utilised by the long-tailed bat than the Applicant’s surveys revealed.

Assessment of the proposal's effects on significant habitats of indigenous fauna must be made in order to address the proposal's effects on the matter of national importance specified in RMA s6(c) and to assess the proposal's response to RPS Policy 11.2 and the District Plan policies in Chapters 20 and 21.¹¹ In order to make those assessments, baseline data in relation to bat activities at and around the Amberfield site is critical. Without it, the Commissioners cannot assess (a) how the environment will be affected, (b) what the Applicant should be seeking to avoid; (c) the likely nature and extent of effects on the environment, (d) what consent conditions would be required, and (e) how to monitor the impact of the development once it is underway.

6. Riverside Reserves Provision

6.1 Peacocke Structure Plan Development

A brief history of the riverside reserve can be gleaned from the July 2009 Hearing Report of the Peacocke Structure Plan.¹² This clarifies how, following submissions by RESI and other parties to Variation 14 (Peacocke Structure Plan), enlarged reserves were put in place for ecological purposes and were to be revegetated. In summary, the Report concludes [emphasis added]:

*1.2.34 The notified version of Variation 14 recognises the ecological and amenity values of the Waikato River Reserve and suggests that the reserve width would generally be between 20m and 50m, depending on topography. However with the ecological concerns raised, this report recommends that the reserve be further widened within the areas known as River Terrace 2 and 3 to **limit the impact of urban development on the ecology of the River riparian zones**, as well as provide for better access to these areas that have been identified as distinctive localities within Peacocke (Boffa Miskell 2006).*

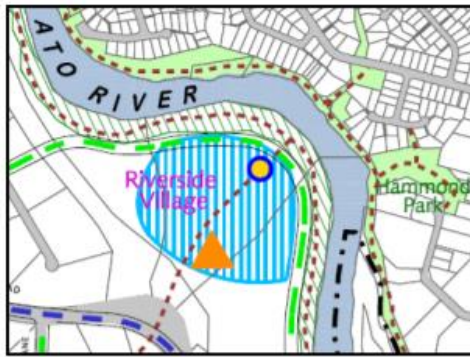
*.... On the basis that the Riverside Reserve will be **enlarged and revegetated** in two areas (opposite Hammond Bush and south of this in River Terrace 2), it is recommended that the submissions are accepted.¹³*

¹¹ District Plan policies 20.2.1d, 20.2.1e, 20.2.1f, 20.2.1i, 20.2.1k, 20.2.1n and 21.2.1f provide strong direction to avoid adverse effects.

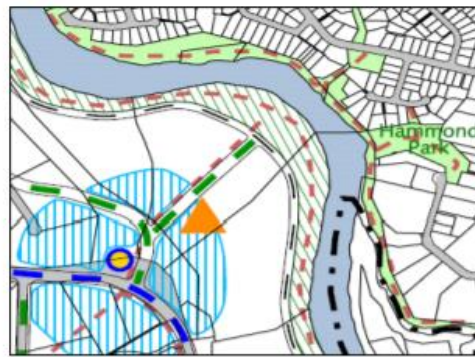
¹² Variation 14: Peacocke Structure Plan Hearing Report July 2009, Volume I, Report on Submissions and Further Submissions

¹³ This reference to River Terrace 2 is presumably a typographical error; what was then called River Terrace 2 is opposite Hammond Park, and it is River Terrace 3 that is further south (at what is now being called "The Island"). The enlarged reserve at the southern river terrace was reduced on appeal and no longer forms part of the Peacocke Structure Plan.

River Terrace 2:



Proposed Structure Plan 2007

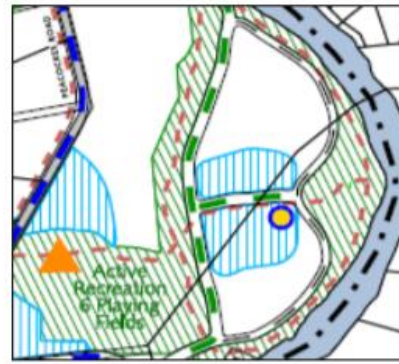


Amended Structure Plan 2009

River Terrace 3:



Proposed Structure Plan 2007



Amended Structure Plan 2009

Figure 1. Maps showing enlarged riverside reserves in the amended Structure Plan 2009 (p 40, Hearing Report of the Peacocke Structure Plan¹⁴)

The enlarged reserve at River Terrace 2 opposite Hammond Park was brought into the Peacocke Structure Plan and Operative District Plan:

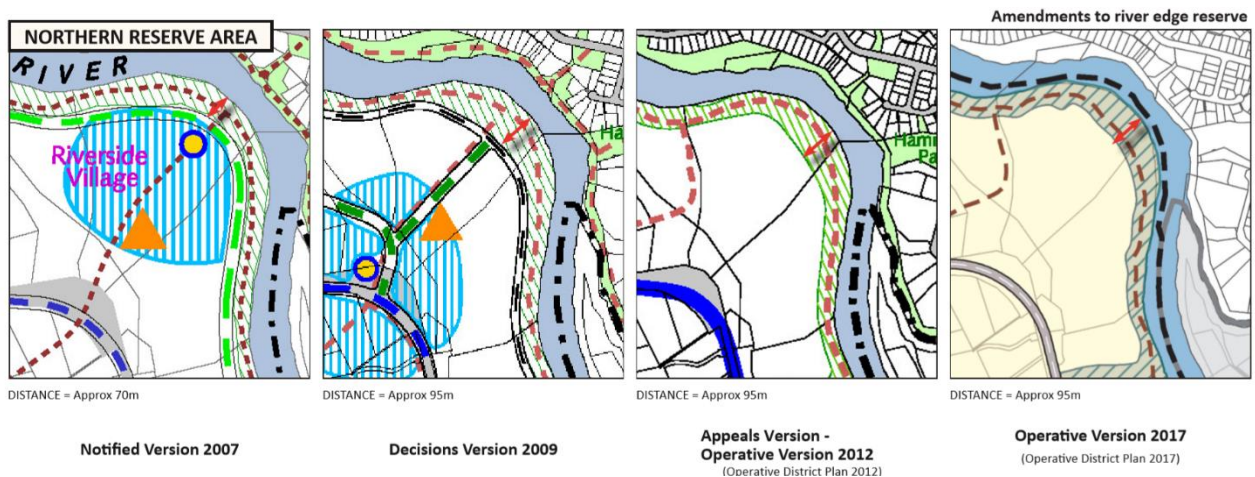


Figure 2. Amendments to river edge reserve. (Supplied by Hamilton City Council)

¹⁴ Variation 14: Peacocke Structure Plan Hearing Report July 2009, Volume I, Report on Submissions and Further Submissions.

6.2 Applicant's Riverside Reserve Proposal

The 2018 Weston Lea application overlooked the Structure Plan reserve provision, which persists in the Operative District Plan, and proposed a revegetated riverside strip of merely seven metres wide opposite Hammond Park.

The Applicant has subsequently enlarged the proposed reserve, the dimensions of which were provided on 12th April 2019 at the end of the [expert evidence of Georgia Cummings](#). According to these dimensions, the reserve's widest point opposite Hammond Park the width is 102 metres to the river edge and 65.9 metres to the farm fence, and narrows significantly from there. The riverside reserve dimensions of the Peacocke Structure Plan can be seen in Appendix B.

This enlargement was achieved in part by removing some riverfront sections and realigning a road, and in part by incorporating into the reserve a shared path, a storm water pump station and a storm water pond. These are sited in a grassed "meadow" area rather than in a revegetated area.

Our concerns with this proposal are:

- i) Rather than a revegetated riverside forest, the Applicant's approach consists primarily of an experimental light screen and vegetative edges along which bats can echolocate.
- ii) The Applicant supplies no evidence or precedent for the success of meadow grass as contributing to bat habitat, and we agree with [Dr Stirnemann's evidence](#) (12) that it is experimental. Both [Ms Cummings](#) (37) and [Dr Parsons](#) (89) state that pasture is unimportant to bats. We suggest that its presence in the reserve is more convenient for storm water infrastructure and a shared path than it is helpful for bats. The Applicant has not stated which species of grass are proposed. New Zealand long tailed bats are an ancient species and did not evolve with exotic trees and grassed meadows. They are a critically threatened species, so we encourage use of the precautionary principle.
- iii) We are volunteer forest restorers (planters and weeders) who work in co-operation with Hamilton City Council's Parks and Open Spaces unit. Our experience in Hammond Park has made it very clear that open, unmown areas are weed "magnets", as explained by [Professor Clarkson](#) (6.13). Our local invasive weed species include privet, honeysuckle, woolly nightshade and jasmine, and these are difficult and labour intensive to prevent and control. An unmown, open grassy area would present a significant burden to Hamilton City Council as the future landowner. In our experience, their budget constraints mean that occasional herbicide is their primary weed control method in such areas.
- viii) The Applicant's most recent proposal is to defer development of the riverfront lots until the buffer is four metres tall. This is likely to take in the order of 6 years (see [Professor Clarkson's evidence](#), Figure 3). The slope shown at Appendix C suggests that a height of greater than four metres will be required to screen

light from houses or roads ([Dr Stirnemann](#), 8.3) unless the Applicant has evidence to suggest otherwise.

6.3 Optimal Reserve Design

We support the recommendation by DOC planning expert [Mr Riddell](#) (6) for a redesign before consent can be properly considered. The first priority should be for a land use design that protects, buffers and connects foraging, commuting and roosting sites on both sides of the river, such that there is a reasonable certainty of avoiding adverse effects on the current bat population and its ability to commute, forage, roost and reproduce. The second priority should be designing an urban environment around it.

In view of the upgraded extinction risk for the long-tailed bat we believe there is now justification for further enlargement of the reserve's width and length to buffer the river corridor and Hammond Park from urban development. This is confirmed by evidence from [Dr Stirnemann](#) (8.4) and [Mr Kessels](#) (118 iii).

The optimal design of the reserve should provide both:

- i) A buffer function to protect valuable bat habitat on the opposite side of the river, particularly SNAs in Hammond Park and the Mangaonua, from light spill and other disturbance arising from the development. As pointed out by both [Dr Stirnemann](#) (9.1) and [Professor Clarkson](#) (6.3 II), this will take many years to achieve, particularly since the urban development will be sited on a sloping hill above the reserve, requiring a significantly greater tree height (and therefore years of planting prior to development) to be effective (see Appendix C).
- ii) A reconstructed, fully-functioning native forest ecosystem that caters for biodiversity in the fullest sense, possessing all appropriate trophic levels and a complex community of plants, invertebrates, lizards, birds and bats. In Hamilton we have the expertise and resources to turn farm pasture into native forest ecosystems, and it has been happening for many years, including in Hammond Park.

This is a sensitive site, requiring careful treatment. The planting should resemble the natural assemblage of native plants found on such a site including a comprehensive range of species. This will require successive planting as the site matures.

When reintroducing plant species, the aim should be:

- To restore to a site those genes and species which, if it were not for human intervention, might be expected to be naturally found there;
- To establish plants in the appropriate landscape, in a way that replicates natural dispersal patterns (this is especially important where species are planted in a natural setting and are intended, or have the potential, to naturally regenerate).

Thus, genuinely ecosourced plants are propagated from wild local populations. To ensure this is truly the case, these should be sourced via Ecosourced Waikato, a group representing plant growers, the Department of Conservation and local and regional authorities. According to the eco-sourcing co-ordinator, because large numbers of plants are required, they will need to be ordered up to three years in advance, depending on the species.

Hence the new design should contain:

- i) A 125-metre riverside buffer all along the site that contains a restored indigenous forest ecosystem, plus a 20 metre setback or extra buffer (see [Professor Clarkson's evidence](#) 6.3 (I) on this point).
- ii) Provision for connection between the north-south or "minor" gully and the Mangakotukutuku Gully (see [Professor Clarkson's evidence](#) 6.8).
- iii) Broad buffering of the east-west shelterbelt corridor consisting of evergreen trees on both sides of the shelterbelt.
- v) Pest control and a provision for no outdoor cats, both in perpetuity.
- vi) Covenants limiting dwellings to a single storey for three property rows back from the river.

This redesign should be funded indirectly by the Applicant, enabling it to be driven by experts in bat ecology, forest restoration, planning and urban design who are able to create the design truly objectively and without undue pressure from the Applicant. These experts may be selected by the Department of Conservation and Hamilton City Council.

7. Staging of the Development

7.1 Weston Lea's Planting and Staging Proposals

At present the Applicant proposes to revegetate the northern bend reserve as stage 1. In their proposal, the streets and urban lots generally commence in the north of the site (lot deferment withstanding) and development proceeds south.

We are unsure from the most recent staging plan when the gully planting is to take place.

7.2 Optimal Post-Planting Delays and Staging Sequence

To allow for the growth of trees as described above, a revised staging system is required that begins from the west of the site and develops the northern bend last. The timing of that staging in terms of years must allow for sufficient time for buffer, gully and corridor planting to be established to a height that experts agree will provide sufficient habitat.

Given the importance of the north-south (minor) gully as a refuge and starting point for an ecological corridor with the Mangakotukutuku gully, the restoration planting of the gully should also be part of stage 1 (see also [Professor Clarkson's evidence](#) 6.11).

8. Consent conditions

8.1 Applicant's Proposed Consent Conditions

Other than what is already provided for in the long-established Peacocke Structure Plan, the Applicant offers little evidence-based mitigation for bats (except perhaps for lot deferral and bat-friendly street lighting). Mitigation should be additional, as described by [Professor Clarkson](#) (6.16).

Like [Mr Riddell in his evidence](#) (176), we are particularly concerned about the suggested condition 65 in the s 42A report that the Applicant should develop its own Environmental Management Plan after resource consent is granted and present it to Hamilton City Council no less than 40 days before construction commences. We also note that the Applicant similarly suggests that it develops a bat management plan after consent is granted (although this plan is not specifically included in their suggested conditions).

The contents of those plans are key components on which to judge this consent application. The fact that they are not available means that it is impossible for the Commissioners and independent experts to decide whether they are sufficient.

As [Mr Riddell writes](#), "174. In my opinion the recommended consent conditions with regard to the protection of (the habitat of) long-tailed bats are seriously deficient and not in accord with sound resource management. This is because the bat-related consent conditions by and large result in information important to inform a decision on the application being deferred until after the decision is granted."

8.2 Likelihood of Applicant Meeting Consent Conditions

Every condition and plan should be planned and documented in advance of consent, giving no room for the Applicant to minimise resources towards achieving the ecological goals of the Peacocke Structure Plan.

We are concerned that the Applicant's approach to date has been based on minimising its ecological obligations and that consent conditions will therefore not be complied with. Our concerns are due to the following factors:

- i) Publications by Brown et al, as described in [Professor Clarkson's evidence](#), showing that consent holders' compliance with conditions is poor in New Zealand.
- ii) The Applicant's history of overlooking Structure Plan provisions.
- iii) The Applicant's history of providing an inadequate baseline regarding bat use of the site and presenting absence of evidence as evidence of absence.
- iv) The Applicant's deletion in the S 42A suggested conditions (79 – 81) of the ability for the Hamilton City Council to review or change the Environmental Management Plan.

- v) The Applicant's failure to propose a Bat Management Plan or Adaptive Management Plan in suggested conditions, despite this being described in [Mr Serjeant's evidence](#) (118).
- vi) The Applicant's deletion of suggested s 42A condition 96 to move boundaries to protect the root zones of the shelterbelt trees to be retained. This need for root zone protection, as well as boundary movement to provide extra space for protection and maintenance of the trees, was raised in the [s 42A report by Mr Stirling](#) (page 9 and 20).
- vii) The Applicant's commitment to only implement pest control unless more roost sites are discovered ([Dr Parsons](#), 61-62).

8.3 Optimal Consent Condition Framework

To ensure that the conditions attached to any consent are fully implemented, a financial bond is imperative.

Independent ecologists who are nominated by the Hamilton City Council and DOC will be required to supervise and interpret the monitoring of bat populations during the development process. They must also be involved in any required adaptive management measures.

9. Summary of Changes Sought by RESI

If the Commissioners are of a mind to grant consent, these are the matters that RESI would like to see addressed, at a minimum. These should be considered in combination with those requested by Dr Stirnemann and Professor Clarkson.

9.1 Reserve Dimensions and Characteristics

There are two provisions that are already integral to the Peacocke Structure Plan and the Operative District Plan which the Applicant, in conjunction with adjoining developers, is under an obligation to implement. These are:

- i) A revegetated riverside reserve (policy **3.4.1.2a** Provide for revegetated gullies and river margins; the Figure 2 map on page 8 of this evidence; the [Peacocke Structure Plan land use map](#)). For a comparison of the dimensions in the Structure Plan and those proposed by the Applicant, see Appendix B.
- ii) Ecological corridors between the Waikato River and the Mangakotukutuku gully (policy **3.4.1.2a** Provide green corridors between the major arms of the Mangakotukutuku Gully and Waikato River).

We believe that the increased extinction risk for the long-tailed bat since the Structure Plan was developed,¹⁵ the bats' heavy use of Amberfield itself, and the SNAs opposite it justifies a redesigned proposal for Amberfield.

¹⁵ C.F.J. O'Donnell, K.M. Borkin, J.E. Christie, B. Lloyd, S. Parsons and R.A. Hitchmough. (2017) [Conservation status of New Zealand bats](#), 2017. New Zealand Threat Classification Series 21. 4 p.

The redesign should focus on (a) further enlargement of these reserves and corridors, and (b) careful reconstruction of indigenous forest reconstruction, including informed methods and appropriate timing. It should contain:

- i) A broad riverside reserve that is planted as a forested buffer and ecological corridor, and is sufficiently advanced in growth to provide a buffering function before construction begins.
- ii) Well-protected corridors between the Waikato River and the Mangakotukutuku gully consisting of broad swathes of reconstructed indigenous forest.
- iii) Conditions should include a requirement to source plants via a suitably qualified and experienced provider, to ensure that plants are genuinely ecosourced. The provider should be certified by a council officer acting on the advice of a qualified restoration ecologist.

9.2 Planting and development staging

A present-day design must not only incorporate these reserve dimensions and characteristics, but give careful consideration to their timing. Staging the corridor planting (riverside reserve, north-south gully and east-west shelterbelt) first, followed by the western part of the development, and finally the north, will maximise the time for plantings to grow.

9.3 Reliable baseline data

The Applicant must provide thorough and reliable baseline data, and clear specifications of what their ongoing monitoring will comprise. We would like all monitoring reports to be made publicly available so that any lessons learnt from this process are accessible to interested parties.

9.4 Conformance to Consent Conditions

Every condition and plan must be planned and unambiguously documented in advance of consent, and a bond is essential to guarantee that consent conditions are met.

10. Addendum

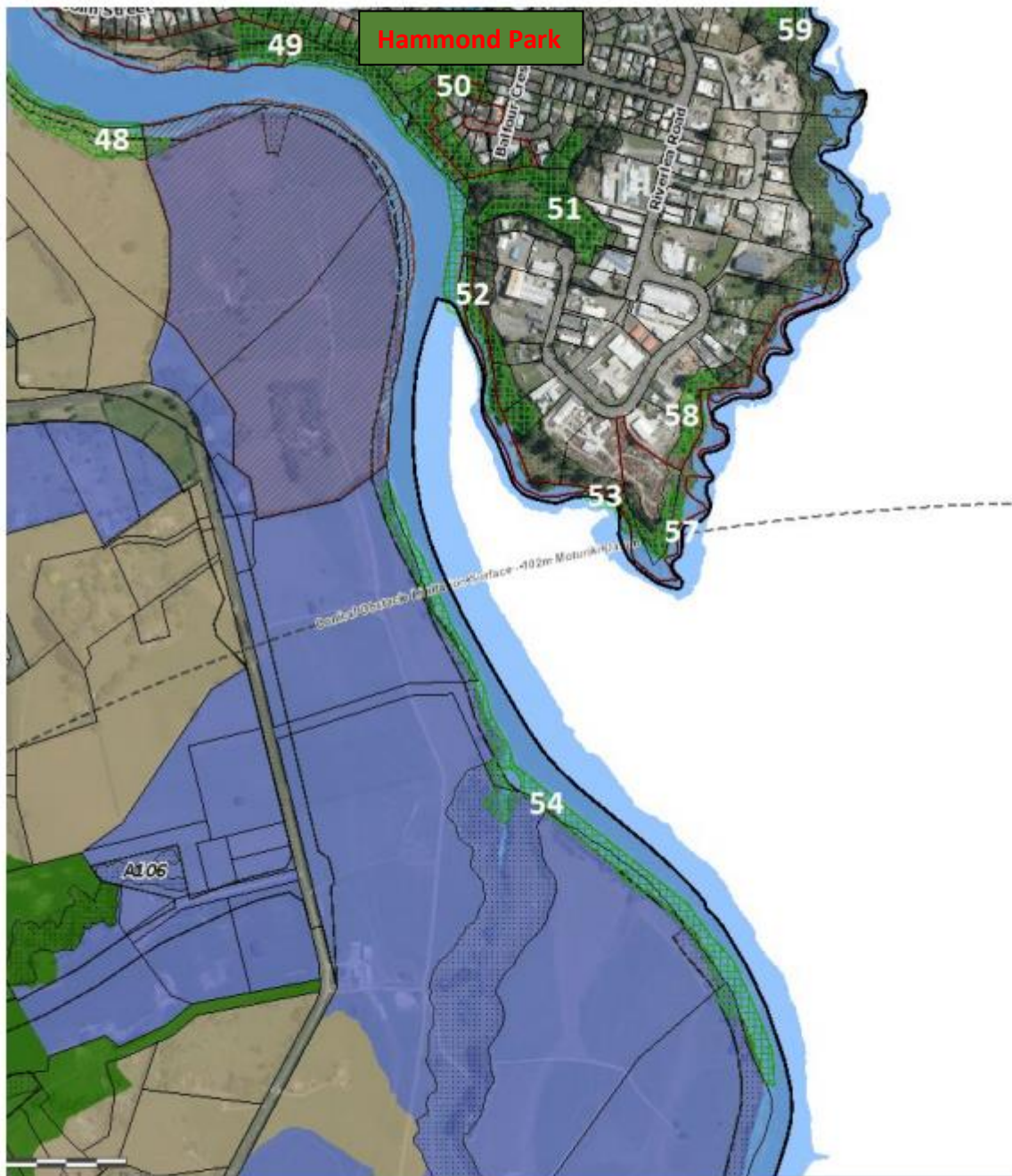
We would also like to briefly mention two matters that are outside the control of the Commissioners but are highly relevant to the matters at hand:

10.1 The need for Hamilton City Council and related parties to urgently create clear ecological framework for all of Peacocke in order to provide certainty and clear guidelines to future developers, Hamilton City Council, DOC and other submitters. This is particularly important with regards to corridor continuity between subdivisions. Encouraging early planting on future development sites is highly desirable.

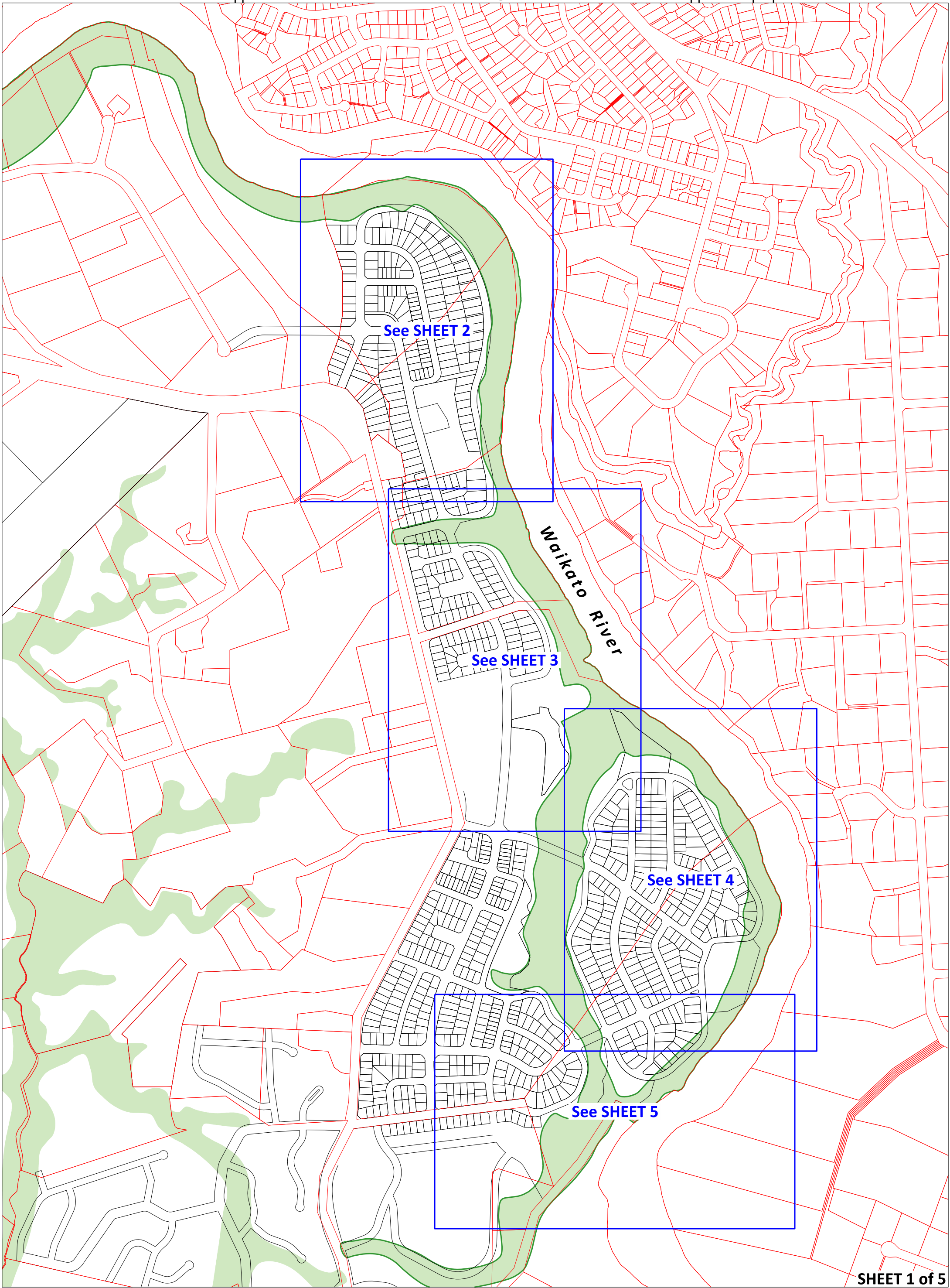
10.2 The need for HCC to undertake a plan change to ensure that the Amberfield and potentially other Peacocke sites are accurately recorded and managed as Significant Natural Areas (**20.2.1b** Areas of indigenous vegetation, biodiversity and habitats of

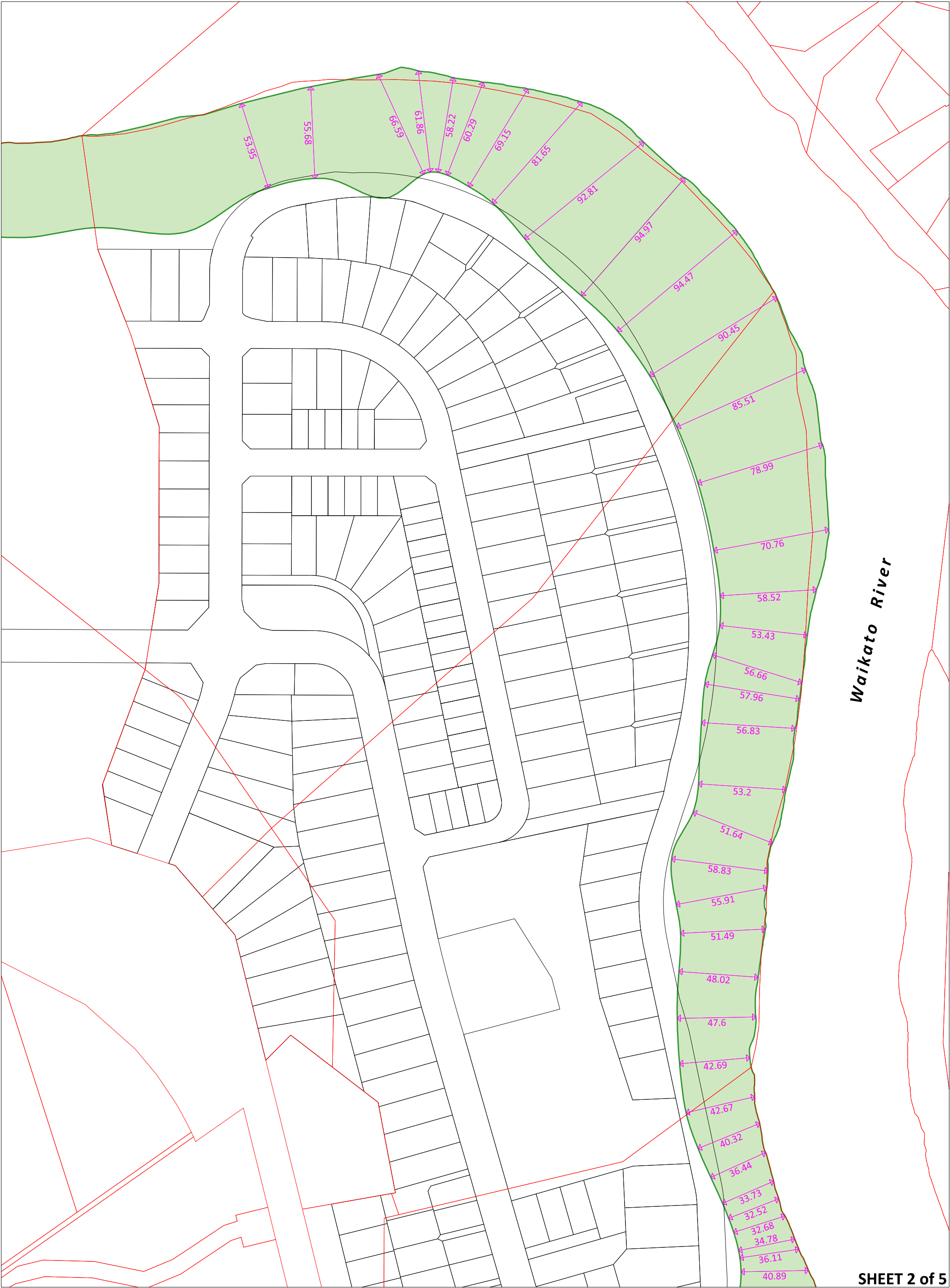
indigenous fauna shall be scheduled as Significant Natural Areas.) This is required if the District Plan is to give effect to policy 11.2 of the RPS and the related Implementation Methods, as is required by RMA s75(3).

Appendix A: Significant Natural Areas in vicinity



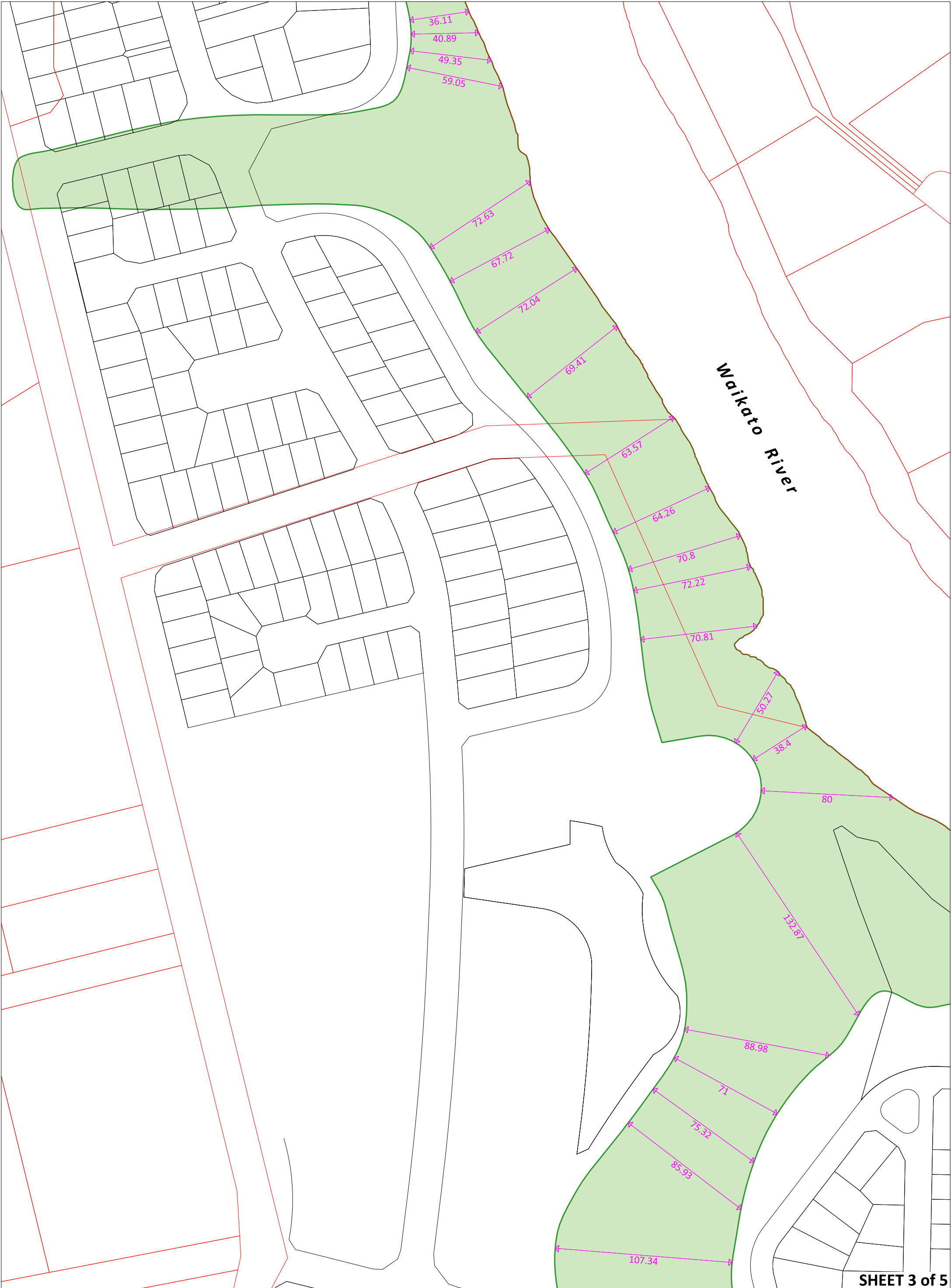
Amberfield site in context. Operative District Plan Map³ - green hashed areas are defined Significant Natural Areas and white numbers are their site numbers as defined within the Hamilton City Council Operative District Plan.





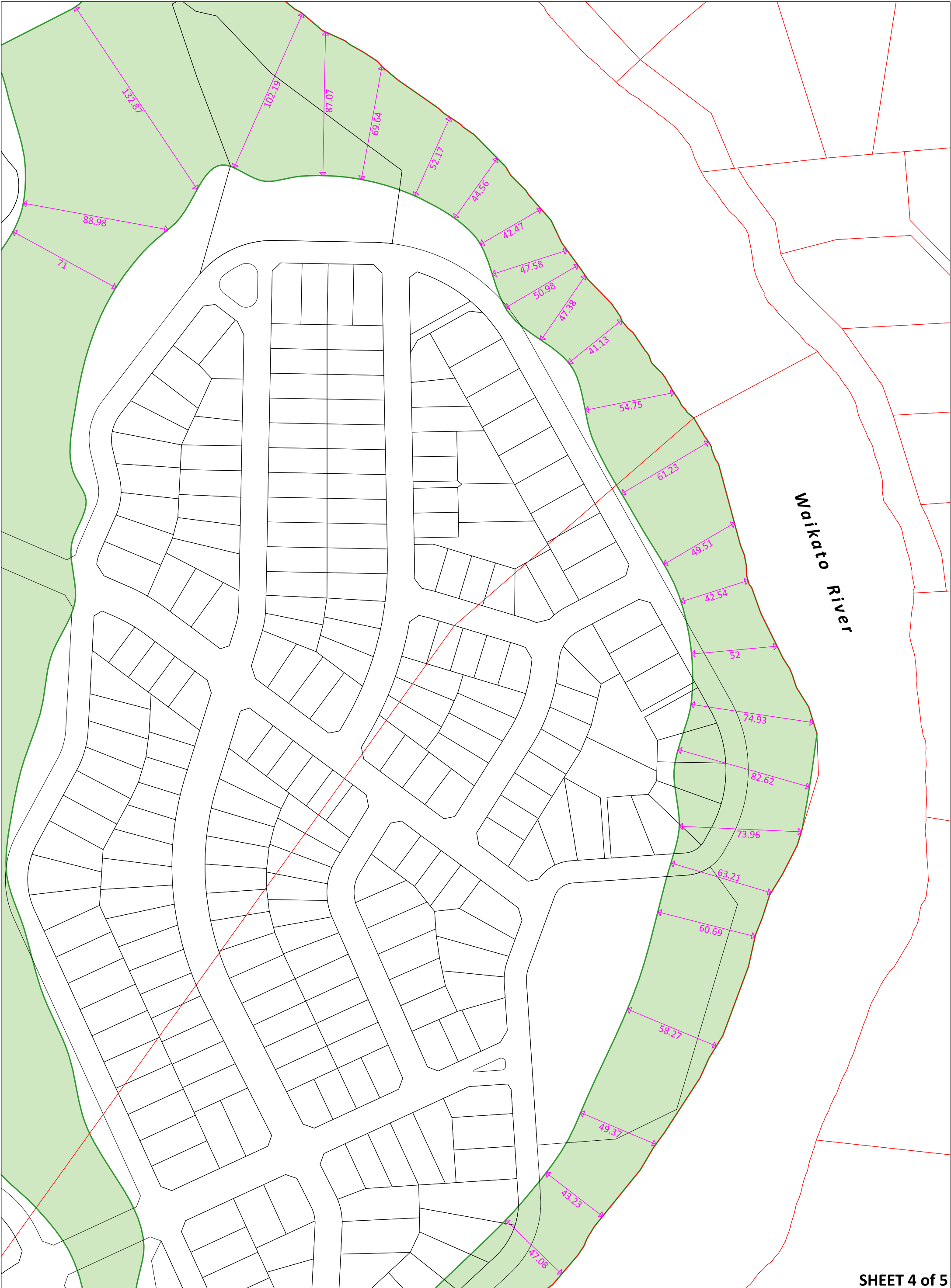
PEACOCKE STRUCTURE PLAN - LAND USE





PEACOCKE STRUCTURE PLAN - LAND USE





LEGEND

Existing Property Boundary

Amberfield Subdivision Boundary

Future Reserve

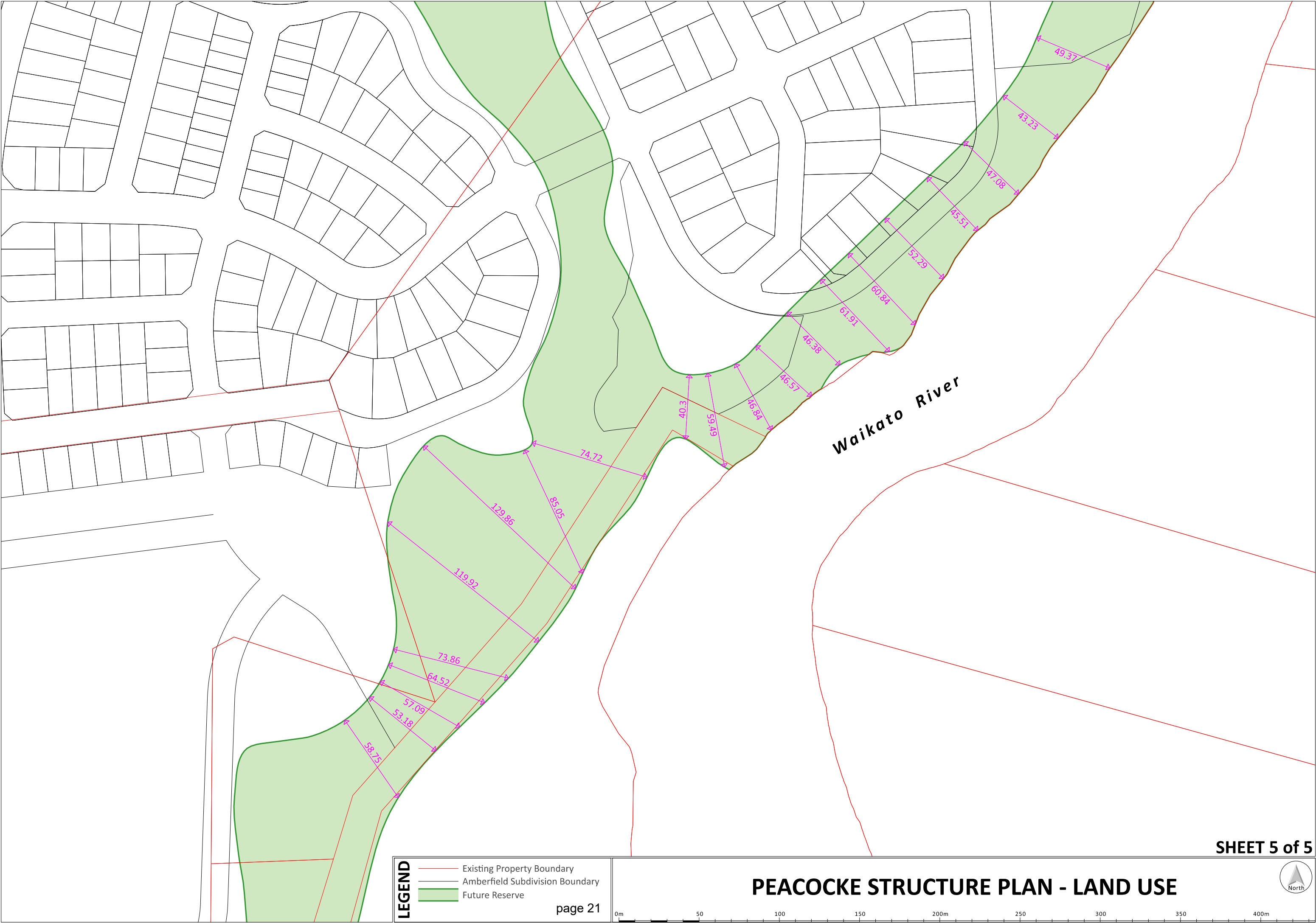
page 20

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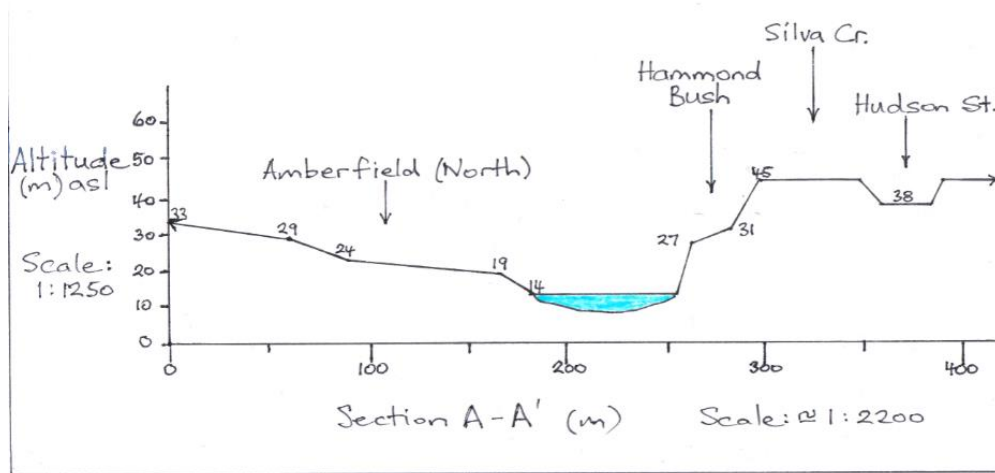
PEACOCKE STRUCTURE PLAN - LAND USE

SHEET 4 of 5

North



Appendix C: Profile diagram showing elevations of proposed Amberfield site and Hammond Bush.



JEB 20-04-19

Contours

