

Your comment on the Northbrook Wanaka Retirement Village

All sections of this form with an asterisk (*) are mandatory.

1. Contact Details

Please ensure that you have authority to comment on the application on behalf of those named on this form.

Organisation name (if relevant)			
*First and last names	Rangi Theodore (Theo) Bunker and Lorraine Rouse Legal representative: Lauren Semple		
*Last name			
Postal address	c/- PO Box 139, Christchurch Central, 8140		
*Home phone / Mobile phone	c/- 021 771 340	*Work phone	
*Email (a valid email address enables us to communicate efficiently with you)	lauren@greenwoodroche.com		

2. *We will email you draft conditions of consent for your comment about this application

√	I can receive emails and my email address is correct	<input type="checkbox"/>	I cannot receive emails and my postal address is correct
---	--	--------------------------	--

3. Please provide your comments on this application

See attached letter.

If you need more space, please attach additional pages. Please include your name, page numbers and the project name on the additional pages

Thank you for your comments

23 June 2021

Environmental Protection Authority

Te Mana Rauhi Taiao
Private Bag 63002
Waterloo Quay
Wellington 6140

northbrookwanakafasttrack@epa.govt.nz

Contact Lauren Semple

Phone 03 353 0574

Email lauren@greenwoodroche.com

Reference 2271094

Christchurch

Level 3, 1 Kettlewell Lane, The Crossing,
680-690 Colombo Street
PO Box 139, Christchurch 8140

COVID-19 Recovery (Fast-track Consenting) Act 2020 - Comment on Northbrook Comprehensive Retirement Village

- 1.1 We refer to your email dated 1 June 2021 which invites Mr Rangi Theodore (Theo) Bunker and Ms Lorraine Rouse to provide comment on a resource consent application (the **Application**) by Winton Property Limited (the **Applicant**) to establish the Northbrook Comprehensive Retirement Village in Northlake, Wanaka (the **Project**). That Application has been made under the COVID-19 Recovery (Fast-track Consenting) Act 2020 (the **Act**) and the COVID-19 Recovery (Fast-track Consenting) Referred Projects Order 2020 (**Order**).
- 1.2 Mr Bunker and Ms Rouse were recently appointed as substitute appellants in ENV-2018-CHC-069 following the death of Mr Michael Beresford who was the original appellant in those proceedings (see minute attached as **Appendix A**). By virtue of that status, Mr Beresford was identified in the Order as a party from whom the Panel must seek comment on the Application. Having now assumed the role of the appellants, this comment is now provided on behalf of Mr Bunker and Ms Rouse.
- 1.3 ENV-2018-CHC-069 is an appeal to the Environment Court against the decision of Queenstown Lakes District Council (the **Council**) to reject the Appellants request under the Queenstown Lakes Proposed District Plan (**PDP**) to rezone land located adjacent to the Project Area¹ in Wanaka known as "Sticky Forest".
- 1.4 Sticky Forest is landlocked and the Council decision records that a significant issue militating against the grant of the rezoning is the lack of legal access to the land.
- 1.5 This situation is made somewhat more "*complex and unusual*" (as the Applicant has pointed out) by the circumstances surrounding the current ownership of Sticky Forest As set out in the report on the Project prepared by the Ministry for the Environment in conjunction with the Office for Māori Crown Relations – Te Arawhiti (**Te Arawhiti**)², the land is currently owned by the Crown but will eventually be transferred to

¹ As noted in the Application, the land adjacent to Sticky Forest on its eastern boundary is owned by Northlake Investments Limited. Winton Property Limited and Northlake Investments Limited are effectively under the same management and ultimate ownership.

² Ministry for the Environment, *Report on Section 17 Covid-19 Recovery (Fast-track Consenting) Act Requirements – Application 2020.002 – Northbrook Wanaka Retirement Village*, <https://mfe1.cwp.govt.nz/assets/RMA/s-17-report-northbrook-wanaka-1.pdf>.

identified successors in accordance with the Ngāi Tahu Claims Settlement Act 1998 (**Settlement Act**). Mr Beresford was one such identified successor as are Mr Bunker and Ms Rouse (among many others).

- 1.6 The detail of the transfer of Sticky Forest is described in further detail in **Appendix B** but it suffices at this juncture, to note that the original redress promised under the South Island Landless Natives Act (**SILNA**) is now some 115 years' outstanding and the substitute redress committed in 1997 through the Ngāi Tahu Treaty Settlement (and via the provision of this land) is without legal access. Without access, options to use the land in order to obtain any tangible economic benefit from it are extremely limited.
- 1.7 In granting the Application for Referred Project Status as sought by the Applicant, the Minister for the Environment (**Minister**) therefore directed the expert consenting panel (**Panel**) to consider whether the Project is "a *legitimate opportunity to resolve access issues to landlocked Sticky Forest*" (the **Minister's Direction**).
- 1.8 For their part and for the reasons described below, the Appellants consider that:
 - (a) processing of this Project under the Act does provide a legitimate opportunity to secure access to Sticky Forest; and
 - (b) that opportunity can be realised through the imposition of a lawful condition on the resource consents for the Project.
- 1.9 For its part, the Applicant has volunteered the following condition of consent:

This consent shall not become operative until and unless:

A request for a private plan change (PPC Request) is lodged with the Council in respect of the undeveloped land owned by Northlake Investments Limited located east of and adjoining the land referred to as 'Sticky Forest' legally described as Section 2 Block XIV Lower Wanaka Survey District; and

The PPC Request includes provision for legal road access (including provision for other infrastructure services) connecting Sticky Forest to roading and other infrastructure services already installed within the Northlake Special Zone, in order to enable development of Sticky Forest.

This consent will become operative on the date the PPC Request is lodged with the Council."

- 1.10 While the intent of the proposed condition is appreciated by the Appellants, and provides something of a pathway towards resolution of the access difficulties, it does not, of itself, **resolve** the access issue as directed by the Minister.
- 1.11 For that reason, the Appellants have developed an alternative condition as set out below. This condition is proposed to attach to both the subdivision consent and the land use consent for the Project:

Prior to the exercise of this consent, the consent holder shall:

- (a) grant the following easements in gross in favour of QLDC:
 - i. a right of way;

ii. a right to convey water, electricity, gas and telecommunications; and

iii. a right to drain water and sewage,

in respect of the part of the land owned by Winton Property Limited (WPL) shown marked "A" on the attached Memorandum of Easements (Affected Area), relying upon the rights and powers implied for those classes of easement as prescribed by the Land Transfer Regulations 2018 and Schedule 5 of the Property Law Act 2007 (Easements).

(b) survey the Affected Area, provide that survey to QLDC for its approval (acting reasonably) and, once approved by QLDC, lodge the survey for approval by Land Information New Zealand (LINZ); and

(c) do all such as may be necessary to register the Easements at LINZ, including, as applicable, obtaining the consent of any mortgagee, encumbrancee or other person having an interest in the Affected Area, and obtaining all necessary regulatory consents and approvals,

provided always that the WPL shall be bound by the Easements as if they had been registered at LINZ.

1.12 Such easements would secure a route for road access and utilities connections to Sticky Forest which would link in with the Applicant's development. They would also provide the opportunity to enable future public access to Sticky Forest which includes an area that is currently heavily used by the walking and mountain bike community despite the land being effectively in private ownership and landlocked.

1.13 Neither the Council nor the Applicant would be under any positive obligation to form the road. However, it is proposed that as part of a proposed resolution of the existing appeal, a requirement is included in the PDP provisions precluding residential subdivision within Sticky Forest unless and until the road is formed in accordance with the appropriate standards in the Plan. Compliance with that requirement would therefore need to be demonstrated in any resource consent application for that residential subdivision.

1.14 As a result, through the operation of the District Plan provisions, the obligation to undertake construction of the road (and the cost of that) would lie with the applicant for any residential consent within Sticky Forest (whether that is the future owners or a developer on behalf of the future owners). Of course, neither the easement proposed or the provisions of the District Plan would prevent the Applicant (or Council) from forming the road if it chose to do so for its own purposes or forming the road to a lesser standard than that required by the plan provisions for Sticky Forest.

1.15 The details of, and rationale for, the alternative condition sought are outlined in further detail in **Appendix B**. In short, it would require the Applicant to grant easements in gross in favour of the Council over part of the Project Area, consistent with its existing roading network and generally in accordance with earthworks consents it already holds. The grant of easement to the Council recognises the complexity of the Crown holding the land on trust and the successors not currently being in a position to contract to accept such easements. Discussions with Council regarding acceptance of that role are ongoing.

- 1.16 It is considered that this is a lawful, pragmatic and appropriate response to the Minister's Direction and resolves a particularly vexed issue which has plagued this land and compromised its development potential and value for some years now.
- 1.17 Mr Bunker and Ms Rouse appreciate this opportunity to provide comment. We would be happy to provide any further information and/or answer any questions the panel may have on this matter.

Yours faithfully
Greenwood Roche

Lauren Semple
Partner

APPENDIX A – NEW PARTIES ORDER

**IN THE ENVIRONMENT COURT
AT CHRISTCHURCH
I TE KŌTI TAIAO O AOTEAROA
KI ŌTAUTAHI**

IN THE MATTER of the Resource Management Act 1991

AND an appeal under clause 14 of the First Schedule of the Act

BETWEEN R T BUNKER & L M ROUSE
(ENV-2018-CHC-69)
Appellants
(previously Michael J Beresford)

AND QUEENSTOWN LAKES DISTRICT COUNCIL
Respondent

**MINUTE OF THE ENVIRONMENT COURT
(25 May 2021)**

Introduction

[1] The court has received the application by R T Bunker and L M Rouse for a new parties order following the death of the appellant, Mr Beresford. As set out in the application and supporting affidavits, Mr Beresford's interest in these proceedings was as a beneficiary in relation to the land which is the subject of this appeal (known as Sticky Forest) and which is to be returned to the beneficial owners under the provisions of the Ngāi Tahu Claims Settlement Act 1998. Mrs Beresford (executor of his estate) agrees to Ms Rouse and Mr Bunker being substituted as appellants to continue with the aim of securing the same outcome for the benefit of all beneficiaries to Sticky Forest.



[2] I consider the application should be granted on the grounds sought and note that all parties have indicated their agreement to the order.

Directions

[3] Accordingly, under ss 2A and 273 of the RMA and r 4.52 of the District Court Rules 2014, the application is granted. The Registrar is directed to update the court record for ENV-2018-CHC-69 to show R T Bunker and L M Rouse as the new appellants.

[4] As per Commissioner Buchanan's 12 April 2021 Minute, parties are to report to the court with an agreed date for mediation by **11 June 2021**.

[5] Leave is reserved for any party to apply for further (or other) directions.



J J M Hassan
Environment Judge



Issued: 25 May 2021

APPENDIX B – COMMENT ON THE PROJECT APPLICATION**1 Background context**

- 1.1 The history and circumstances of Sticky Forest and its relevance to the current proceedings have been referenced in part in both the report prepared by the Ministry for the Environment in conjunction with Te Arawhiti under section 17 of the Act, and in the Application.
- 1.2 Given that history provides essential context for the Minister’s Direction, and for the Panel’s decision on whether the opportunity referenced in that Direction should be realised, further, more fulsome detail is set out below .

SILNA

- 1.3 Sticky Forest is identified in the Ngāi Tahu Deed of Settlement entered into by Te Rūnanga o Ngāi Tahu and the Crown in 1997 (the **Deed**) in satisfaction of an outstanding settlement owed by the Crown pursuant to the South Island Landless Natives Act 1906 (**SILNA**). The purpose of SILNA had been to vest land in various individuals identified as “landless Māori” in order to provide them with a “tangible economic base”, as redress for the Crown’s wrongful taking of Māori land. In spite of its intention however, the promised land was often in locations far away from the identified successors and had limited prospects of any economic return. For these reasons, the Waitangi Tribunal referred to SILNA and its implementation as “...but a cruel hoax, and...cannot be reconciled with the honour of the Crown”.³
- 1.4 As part of the SILNA scheme, a large block of land (comprising approximately 670 hectares) in the “neck” between Lakes Hawea and Wanaka (known as “The Neck”) was originally allocated to 53 named individuals⁴, whose whakapapa was, for the most part, linked to Ngāi Tahu (**Original Wanaka Block**). However, by the time SILNA was repealed some three years later, four outstanding blocks were left without titles having been issued, and without having been formally transferred to the named individuals. The Original Wanaka Block was one of those outstanding, and the Crown’s failure to provide redress to the identified successors endured for a further 90 years.
- 1.5 In its review of the matter, the Waitangi Tribunal held that that the Crown’s actions in this regard constituted a breach of its obligations under the Treaty of Waitangi. That breach is recognised and acknowledged by the Crown within the Deed, but it was not until that Deed was finalised that the first steps in providing redress for that breach commenced.

The Deed and the Settlement Act

- 1.6 At the time of settlement negotiations between the Crown and Ngāi Tahu, the Original Wanaka Block was the subject of a pastoral lease granted to private leaseholders. As a result, through the negotiations the Original Wanaka Block was substituted for the

³ Waitangi Tribunal (1995), Ngāi Tahu Ancillary Claims Report 1995 (Wai 27), <https://ngaitahu.iwi.nz/wp-content/uploads/2018/04/1995-Nga%CC%84i-Tahu-Ancillary-Claims-Report.pdf>.

⁴ Some individuals’ names appear on the list twice giving the false impression that it was allocated to 57 individuals. The Māori Land Court has confirmed that there are in fact 53 individuals on the original list.

land now referred to as Sticky Forest in satisfaction of unfulfilled obligations of the Crown to the individuals allocated the Original Wanaka Block.

- 1.7 As the Settlement Act provides for full and final settlement with no further opportunity for substitution, the Sticky Forest land cannot be further substituted and the redress to the successors is therefore confined to that land.

Successor identification

- 1.8 Following the successful passage of the Settlement Act, in accordance with Section 15 of the Deed, the then Minister for Māori Development applied to the Māori Land Court to initiate the process of identifying the successors to the four un-transferred SILNA blocks (including Sticky Forest) and their respective share interests. The current list of successors to Sticky Forest identified by the Māori Land Court identifies a total of 1,156 successors. The Appellants understand that number is now in excess of 1,300.
- 1.9 For their part, Ms Rouse and Mr Bunker's beneficial shares in Sticky Forest are among the largest, with a holding of 2.25% and 0.56% respectively. Mr Beresford's share was 3.35% to which his two children are now be entitled.

Landlocking

- 1.10 At the time Sticky Forest was identified as a substitute block for settlement purposes in the late 1990s, it was held in a title comprising 115.4988 hectares, all of which had legal frontage to Rata Street and Aubery Road in Wanaka. At that time, the entire 115 ha was vested in the Council as a "local purpose reserve" for 'plantation' purposes. Under the Settlement Act, that status was revoked as it applied to Sticky Forest, and the reversionary interest in the land was returned to the Crown.
- 1.11 The remaining portion (defined as the Wanaka Plantation property, now, the Kirimoko block) was made available to Te Rūnanga o Ngāi Tahu under the Settlement Act to purchase as a commercial redress property. That purchase was made in 2000, and was preceded by the revocation of the reserve status on that portion under the Settlement Act.
- 1.12 To effect the transfer of the Wanaka Plantation property, the block as a whole (including Sticky Forest) was subdivided under the Settlement Act. Importantly, subdivisions of land by the Crown under that Act are not subject to the oversight of the usual subdivision rules under the Resource Management Act 1991 (**RMA**) (which include the provision of access). As a result, while the Wanaka Plantation block retained its legal access via Aubery Road and the Rata Street frontage, Sticky Forest became landlocked (likely through an administrative oversight).
- 1.13 Despite continued efforts by Mr Beresford and other successors including Ms Rouse and Mr Bunker to secure legal access to Sticky Forest, it remains landlocked today.

Current status

- 1.14 Sticky Forest remains held by the Crown pending the formal transfer to the modern day successors to the original 53 beneficiaries identified under the SILNA. Te Arawhiti administers the land and is responsible for the payment of all costs associated with the land including rates, insurance and forestry maintenance costs.

2 Environment Court Appeal

Proposed District Plan – Submission

- 2.1 At the time the PDP was notified, the Māori Land Court was still in the process of identifying the successors to Sticky Forest. Mr Beresford, Ms Rouse and Mr Bunker had, however, already been advised of their beneficial interest in the land which, on transfer, will become an ownership share.
- 2.2 In recognition of that, Mr Beresford and Mr Bunker along with a number of other successors were appointed in a meeting organised by the Māori Land Court to begin investigating the land and any opportunities that existed to realise economic benefit from it for the successors once they were all identified.⁵ Relevant, of course, to that investigation was (and continues to be) the zoning of Sticky Forest and what that enables.
- 2.3 To that end, in 2015 Mr Beresford lodged a submission on the PDP requesting a change to the notified rural zoning in order to enable some limited urban development on the land. The notified PDP had also proposed to identify approximately half of Sticky Forest as an “outstanding natural landscape” which, if accepted, would have prevented any economic use or development of that area for the successors. With the benefit of input from technical experts (including on planning, landscape, servicing and transport matters), Mr Beresford refined his request by the time of the Council hearing, requesting a zoning pattern and accompanying plan provisions which would:
- (a) enable large lot and low density residential development (approximately 150 lots) on the south eastern half of Sticky Forest, being the area of least sensitivity in terms of landscape and visual qualities;
 - (b) see the south western edge and northern half of Sticky Forest retain its rural zoning, with the northern half to be identified as an outstanding natural landscape;
 - (c) provide for the appropriate retention of existing trees on the rurally zoned portion of Sticky Forest and provide appropriate public access to that area;
 - (d) require a structure plan (which would show (among other features) access to and within the site) to be approved by Council prior to the lodgement of any subdivision consent; and
 - (e) require any subdivision to be consistent with that structure plan.
- 2.4 Of most relevance to this process:
- (a) Transport evidence presented at the hearing on behalf of Mr Beresford confirmed that a number of existing vehicle access routes could adequately service the level of development enabled by the request. The most satisfactory of these was identified through Northlake, but access options were also identified (and assessed as acceptable) through Infinity Drive (north west of Sticky Forest),

⁵ Māori Land Court - Te Waipounamu District (2014) Report of Recording Officer at Meeting of Assembled Owners in the matter of the Hāwea-Wānaka Substitute Block, held on 8 February 2014.

Platinum Ridge (western boundary), and through the Kirimoko Block (formerly, the Wanaka Plantation).

- (b) Civil engineering evidence was also presented on behalf of Mr Beresford. It confirmed that the stormwater, wastewater and water supply requirements associated with the development at Sticky Forest could be feasibly serviced by a combination of existing infrastructure and budgeted upgrades, and design requirements.⁶ A copy of that evidence is included as **Attachment 1**.

Panel Recommendation

- 2.5 In its decision, the Panel found that there was merit in Mr Beresford's contention that some parts of Sticky Forest were suitable for urban development. It determined, however, that in absence of any clarity as to the nature and location of legal rights of access to the site, it was not possible to determine where and how urban development should be provided for. Had access been resolved, the Panel commented that it would likely have "found an urban zoning of at least part of the site to be appropriate". Instead, it held that the submission was premature, and that a rural zoning would be the most appropriate way to achieve the objectives of the PDP "in the interim".
- 2.6 That decision was appealed by Mr Beresford in June 2018 on a number of grounds including that there was no lawful basis for the Council to decide against the rezoning simply because there was no firm access proposal before it. The appeal argues that alternative access options were provided to the Panel for consideration and these should have been sufficient for its recommendation (and Council's subsequent decision) given the proposed provisions of the plan.
- 2.7 It remains the position of Mr Bunker and Ms Rouse (as the new appellants) that the proposed rezoning of Sticky Forest is the most appropriate outcome in terms of the purpose of the RMA and the objectives and policies of the PDP. In particular, it will enable the opportunity for the successors to utilise part of Sticky Forest in a manner that will enhance their social and economic wellbeing; an outcome which would finally realise at least in part the Crown's originally stated intention for this land and its successors. That position has been echoed by the Attorney General (a party to the appeal) who has stated that "[t]here is a public interest in ensuring that the value and utility of the land forming part of a Treaty settlement is preserved for its future owners, particularly when the land the Crown contracted in 1997 to transfer has become landlocked prior to the Crown being able to effect transfer."
- 2.8 It has nevertheless become clear that resolution of this appeal is effectively predicated on securing access to Sticky Forest by some form of legally enforceable mechanism.

3 Access: other statutes

- 3.1 Over recent years, Mr Beresford and the Appellants have variously investigated a number of options for resolving the access issue, including through (unsuccessful)

⁶ For example, the site elevation in some instances may necessitate booster pumps to enable reticulation of water, but this requirement has been imposed in a number of other areas within the district (including Northlake) and does not hinder the ability to develop the land. Similarly, "low impact design" principles would ensure the appropriate management of stormwater throughout the development. Those principles are also currently being employed to manage stormwater runoff at Northlake.

negotiations with adjacent landowners. Potential legal avenues under investigation have included court-ordered access to Sticky Forest granted under either the Property Law Act 2007⁷ or Te Ture Whenua Māori Act 1993 (if the decision is made by the successors to receive the land as Māori freehold).⁸

- 3.2 Each option has however, been stymied, by the various complexities associated with Sticky Forest, including its current interim ownership and beneficial interest arrangements; the challenge of locating successors for the purposes of notifying and/or agreeing the provision of access; the uncertainty regarding the form of future ownership; issues of possible compensation (and how that would be paid); the zoning of Sticky Forest (and how it influences what constitutes "reasonable access"); and the future status of the land (as Māori freehold or otherwise).
- 3.3 For these reasons, access orders through the Court have not been progressed at this time.

4 Access: COVID-19 Recovery (Fast-track Consenting) Act 2020

- 4.1 It is the Appellants' view that the Project – and specifically, the panel's decision on whether to grant the Application for it – presents a legitimate opportunity to resolve the access issue to Sticky Forest.
- 4.2 The area to which the Application relates includes the land owned by the Applicant that is directly adjacent to Sticky Forest.⁹ The Applicant has specifically applied for consent under the Act to subdivide that land to enable the development of the Retirement Village. If resource consent is granted, it will result in the creation of two lots – Lot 1 which will accommodate most of the Retirement Village, and Lot 2000 which will include the balance of the land adjoining Sticky Forest. The scope of the Project, in other words, clearly includes subdivision arrangements for land directly adjoining Sticky Forest, and though which access can be achieved.
- 4.3 In reaching its decision on the Application, the panel is entitled under Schedule 6, clause 35(2) of the Act to grant consent for the Project subject to any conditions it considers appropriate. As set out below, the Applicant has proposed a condition of consent that it considers would, in part, resolve the access issue related to Sticky Forest.

Applicant's proposed condition

- 4.4 The condition proposed by the Applicant would require it to lodge a plan change showing provision for access to Sticky Forest through its land as part of that subsequent proposal, namely:

This consent shall not become operative until and unless:

A request for a private plan change (PPC Request) is lodged with the Council in respect of the undeveloped land owned by Northlake Investments Limited located east of and

⁷ Property Law Act 2007, sections 327 – 328.

⁸ Te Ture Whenua Māori Act 1993, sections 315, 326A - 326D.

⁹ Lot 2012 DP557705, Lot 5000 DP555535 and Lot 66 DP 371470. Refer section 3.2 of the Application for further description of the site.

adjoining the land referred to as 'Sticky Forest' legally described as Section 2 Block XIV Lower Wanaka Survey District; and

The PPC Request includes provision for legal road access (including provision for other infrastructure services) connecting Sticky Forest to roading and other infrastructure services already installed within the Northlake Special Zone, in order to enable development of Sticky Forest.

This consent will become operative on the date the PPC Request is lodged with the Council."

- 4.5 While the Appellants appreciate that intent of the condition, for the reasons set out below, it is the Appellants' view that the Applicant's proposed condition does not "resolve" the access issue to Sticky Forest as directed in the Ministers Letter. Rather, it simply provides a pathway for an access option to be (at least initially) assessed under the RMA. Given the historical context, the continued uncertainty associated with that option is problematic.
- 4.6 In that context, the Appellants have identified an alternative condition (described below) which would secure a route for the provision of access and service connections to Sticky Forest through the granting of easements in favour of the Council. For the reasons set out below, this option offers more certainty than the condition proposed by the Applicant and ensures that the costs associated with the access are borne by the appropriate parties. This is therefore considered to be more consistent with the provisions of the Act.

Alternative condition

- 4.7 The Appellants propose that the following alternative condition to be placed on the subdivision and land use consent:

Prior to the exercise of this consent, Winton Property Limited (WPL) shall:

- (a) *grant the following easements in gross in favour of Queenstown Lakes District Council:*

- i. a right of way;*
- ii. a right to convey water, electricity, gas and telecommunications; and*
- iii. a right to drain water and sewage,*

*in respect of the part of the land owned by WPL shown marked "A" on the attached Memorandum of Easements (Affected Area) [refer **Attachment 2**], relying upon the rights and powers implied for those classes of easement as prescribed by the Land Transfer Regulations 2018 and Schedule 5 of the Property Law Act 2007 (Easements).*

- (b) *survey the Affected Area, provide that survey to QLDC for its approval (acting reasonably) and, once approved by QLDC, lodge the survey for approval by Land Information New Zealand (LINZ); and*

(c) *do all such as may be necessary to register the Easements at LINZ, including, as applicable, obtaining the consent of any mortgagee, encumbrancee or other person having an interest in the Affected Area, and obtaining all necessary regulatory consents and approvals,*

provided always that the WPL shall be bound by the Easements as if they had been registered at LINZ.

4.8 The rationale for the various practical features of this condition are described as follows:

- (a) **Easements in gross.** This mechanism is proposed in preference to an easements appurtenant to Sticky Forest as current ownership arrangements for Sticky Forest will likely prevent it from being able to receive (through the appropriate legal mechanism) the benefit of those interests in a timely manner. The proposed easements would secure a route for road access and utilities connections to Sticky Forest. Further, such easements would provide the opportunity to enable public access to Sticky Forest (which includes an area that is currently heavily used by the walking and mountain bike community despite the land being effectively in private ownership and landlocked).
- (b) **Grantee.** For the same reasons as set out above, neither the successors nor the Crown is well placed to accept the benefit of the easements. Specifically, while the Crown (in its capacity as landowner) supports the resolution of this access issue, the circumstances of its current ownership of Sticky Forest (and the interests of the successors) mean it is not in a position to act as grantee to the proposed easements in gross. As such, the Council has been identified as the most appropriate entity to receive the benefit of the proposed easements to enable access to Sticky Forest. Discussions with Council regarding acceptance of that role are ongoing.
- (c) **Affected Area.** The easement route shown in **Attachment 2** (and referred to in the proposed condition) connects with, and largely follows, the Applicant's existing roading network and a roading connection near the boundary of Sticky Forest for which the Applicant recently obtained an earthworks consent (RM2000167 and RM200796). The proposed route, in other words, is designed to align with (or at least would not impede) the Applicant's wider development aspirations for the balance of the Project Area.
- (d) **Assignment of cost/responsibility.** Critically under this proposed condition, neither the Council nor the Applicant would be under any positive obligation to form the road. However, it is proposed that as part of a proposed resolution of the existing Environment Court appeal, a requirement is included in the PDP provisions precluding residential subdivision (included as **Attachment 3**) within Sticky Forest unless and until the road is formed in accordance with the applicable Council standards. Compliance with that requirement would need to be demonstrated in a resource consent application for that residential subdivision. Consequently, through the operation of these provisions, the obligation to procure these works (and their funding) would therefore lie with the applicant for that consent (whether that is the future owners or a developer on behalf of the future owners).

- 4.9 In developing this proposed solution, the Appellants have commissioned Mr Tony Penny to undertake a traffic assessment of the access that would be enabled by the proposed easements. The findings of his assessment are included as **Attachment 4**. In short, he confirms that:
- (a) As a result of a variety of factors (including the nature of accommodation and residential trip behaviour in Wanaka, and the large catchment area), the traffic generation rate for trips travelling beyond the Outlet Road/Aubrey Road intersection is expected to be about 6 vehicle movements per dwelling per day.
 - (b) With this forecast traffic generation, the traffic associated with the 150 potential dwellings that could be developed on the Sticky Forest site will be able to be efficiently and safely accommodated solely by a road developed in accordance with the access easement without significant adverse effects on the efficiency or safety of the road network associated with Northlake.
 - (c) Even if a higher traffic generation rate were to occur, it is still expected that the single access route to Sticky Forest as proposed would not adversely affect the efficiency or safety of the road network associated with Northlake or the wider transport environment.
 - (d) There is potential to add another road access, once issues of ownership of the land are resolved. This would result in an even smaller effect on the Aubrey Road/Outlet Road intersection and the rest of the road network, particularly if the access via the Clearview development was established before Sticky Forest was fully developed.
- 4.10 For their part, Te Arawhiti has provisionally confirmed its support for this proposed condition as the most appropriate method for resolving access to Sticky Forest through this Project.

Legitimate Opportunity

- 4.11 As set out above, the Appellants consider that a legitimate opportunity exists to resolve access to Sticky Forest via the imposition of a condition on the consents for the Project.
- 4.12 Part of the Project to which the Application relates is the subdivision of the land in which the Affected Area is located. The panel is authorised under clause 35 of the Act(2) to grant consent for the Project subject to any conditions it considers appropriate. Section 220 (incorporated into the Act via clause 35(3)) explicitly contemplates the imposition of conditions requiring the grant of property rights in respect of the project, including rights of access.
- 4.13 In that regard and in terms of the scope of the Project itself, the opportunity to secure the provision of access to Sticky Forest via this process is clearly "legitimate". The balance of this comment addresses why the imposition of the Appellants' proposed condition can and should be considered "appropriate" in terms of clause 35(2).

Appropriate

- 4.14 While clause 35 echoes (and under subclause (3) imports) some of the provisions within the RMA relating to conditions, the authority to impose “appropriate” conditions on resource consents is granted under the Act. “Appropriate” in that context is therefore not limited to the considerations in sections 108, 108A to 122 and 220 of the RMA (although those considerations are clearly relevant, as noted above). Rather, it must be assessed and applied in the context of the Act and in accordance with the purpose(s) for which it is granted.
- 4.15 That purpose is to *urgently promote employment to support New Zealand’s recovery from the economic and social impacts of COVID-19 and to support the certainty of ongoing investment across New Zealand, while continuing to promote the sustainable management of natural and physical resources.*¹⁰ Matters relevant to achieving that purpose (at least at the referred project stage) include the project’s effects on the social and cultural wellbeing of current and future generations.¹¹ Social and cultural wellbeing is also referred to in the RMA definition of “sustainable management” (incorporated through the Act).
- 4.16 Further, in achieving that purpose, section 6 of the Act also requires all persons performing functions and exercising powers under it (for example, the imposition of conditions on a resource consent under clause 35(2)) to *act in a manner that is consistent with the principles of the Treaty of Waitangi and Treaty settlements.*¹² In its decision report issued under the Act on the listed *Matawii Water Storage Reservoir* project, the expert panel noted that while the Act does not contain a list of principles of the Treaty of Waitangi, case law indicates that these may include principles of active protection, good faith consultation and communication, and a spirit of partnership. It was also acknowledged by the panel in that decision that this provision under the Act offers more stringent requirements than are found in section 8 of the RMA.¹³
- 4.17 For the following reasons, the Appellants consider that their proposed condition is “appropriate” in that context:
- (a) **The purpose of the Act.** Resolving the access issue to Sticky Forest in the manner proposed by the Appellants will not hinder or otherwise delay realisation of the economic or employment benefits associated with this Project. It will also not comprise the certainty of the Applicant’s investment, nor (according to Mr Penny’s assessment) will it result in the creation of any adverse environmental effects. It would however facilitate significant uplift in the social and cultural wellbeing of the successors to Sticky Forest, who after nearly 120 years, are still waiting for the redress promised to them by the Crown, first under SILNA then under the Settlement Act. *Resolution* of the access issue through this process will not in of itself bring closure in this long-standing grievance, but it would overcome a significant hurdle to that outcome and to finally enabling some economic benefit from the land.

¹⁰ COVID-19 Recovery (Fast track Consenting) Act 2020, section 4.

¹¹ COVID-19 Recovery (Fast track Consenting) Act 2020, section 19(b).

¹² COVID-19 Recovery (Fast track Consenting) Act 2020, section 6.

¹³ Record of Decision of the Expert Consenting Panel under Clause 37 Schedule 6 of the COVID-19 Recovery (Fast-Track Consenting) Act 2020 - *Matawii Water Storage Reservoir*, 23 October 2020 at [52].

As set out above, the cultural, social and economic wellbeing of the community (which includes the successors) is relevant to the purpose of the Act, both as it is mentioned in section 19 and in terms of the sustainable management of natural and physical resources.

In that context, granting consents subject to the Appellants' proposed condition is considered to be more "appropriate" under clause 35(2) than granting consents with the Applicant's condition or with no such condition at all.

- (b) **Treaty requirements.** In deciding on whether to refer a project under the Act, the Minister may satisfy his obligations to act consistently with the principles of the Treaty of Waitangi and Treaty settlements where he obtains and considers a report prepared by the Ministry for the Environment under section 17. That report identifies various matters including relevant settlements and principles and provisions within those settlements in relation to the project area.

As noted above, a section 17 report was commissioned and considered by the Minister in respect of the Project. The Minister's Direction and Mr Beresford's invitation to comment on the Project appear to specifically respond to the Minister's consideration of the contents of that report.

As set out above, the obligation to act consistently with the principles of the Treaty of Waitangi and Treaty settlements applies to all persons exercising powers and functions under the Act. In light of that and the Minister's Direction, where a legitimate opportunity exists to *resolve* the access issues to landlocked Sticky Forest (and in absence of any barriers), the panel should exercise its power to ensure that opportunity is realised. To do otherwise would arguably fall short of the assumed rationale for the Minister's Direction and the invitation to Mr Beresford, and the statutory obligation that that Direction and invitation sought to support.

- 4.18 For the reasons set out above, it is submitted that the panel can and should find that the Appellants' proposed condition is "appropriate" in terms of Schedule 6, clause 35 of the Act. The Appellants therefore request that the land use and subdivision consents for the Project are granted, subject to the imposition of that condition.

ATTACHMENT 1 – CIVIL ENGINEERING EVIDENCE

**BEFORE THE HEARINGS PANEL FOR THE PROPOSED QUEENSTOWN
LAKES DISTRICT PLAN**

IN THE MATTER of the Resource
Management Act 1991

AND

IN THE MATTER of the Hearing Stream 12
– Upper Clutha Mapping
Annotations and Rezoning
Requests

**STATEMENT OF EVIDENCE OF MR JOHN FRANCIS McCARTNEY ON BEHALF
OF M BERESFORD**

INTRODUCTION

1. My name is John McCartney. I am a consulting civil engineer and hold the position of Senior Civil and Environmental Engineer with the consulting engineering company Hadley Consultants Limited, based in Queenstown.
2. I hold the qualifications of Bachelor of Engineering (Civil) from the University of Canterbury. I have 25 years experience in the design and construction of civil infrastructure with particular expertise in site investigation and assessment along with the design and construction of development infrastructure including roading, water supply, wastewater and stormwater disposal systems. I have experience in the design and implementation of infrastructure works for both private companies and for Local Authorities throughout New Zealand.
3. Although this is a Council hearing, I confirm that I have read and agree to comply with the Code of Conduct for Expert Witness. This evidence is within my area of expertise except where I state that I am relying on what I have been told by another person. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

SCOPE OF EVIDENCE

4. Hadley Consultants Limited (HCL) has been engaged by the Suburban Estates Ltd (SEL) to assess and report on engineering related matters involving potential rezoning of land.
5. The rezoning request has been made as part of the review of the Queenstown Lakes District Council (QLDC) District Plan. The request is part of Stream 12 of the review process and the submission is number 149. The rezoning request is to amend the zoning of part of the site to low density residential.
6. The land is legally described as Section 2 SECT 5 Blk XIV Lower Wanaka SD. The site is located to the west of Peninsula Bay in Wanaka and covers around 51 hectares in total. The land is referred to locally as Sticky Forest.
7. QLDC engineering staff have assessed the rezoning request and prepared evidence. Mr Ulrich Glasner opposes the rezoning due to the potential upgrades that may be required to the QLDC wastewater infrastructure¹.
8. Mr Glasner also states in his statement of evidence that the site may be able to be fed from the Beacon Point reservoir but pressure boosting would be required. This would need to be installed either by the developer or by contributing to the upgrade of an existing pump station².
9. I note that Mr Glasner's evidence assumes a total yield from the rezoning of 765 additional residential units³.
10. Hadley Consultants have been engaged to assess and respond to the points raised about infrastructure issues in Mr Glasner's evidence and to more generally detail appropriate servicing responses to the general development of the site.
11. My evidence today is limited to infrastructure issues and in particular the feasibility of servicing the site with stormwater, wastewater and water supply services.

¹ "Statement Of Evidence Of Ulrich Wilhem Glasner On Behalf Of Queenstown Lakes District Council Infrastructure - 20 March 2017" - paragraphs 6.12 and 6.13.

² Ibid - paragraph 6.14.

³ Ibid - paragraph 6.11.

12. From information supplied to me on behalf of SEL, the likely lot yield from the development will create approximately 150 dwellings. This is significantly less, approximately one fifth, than that assumed by Mr Glasner.

WATER SUPPLY

13. The Beacon Point Reservoir and Treatment Plant lies immediately adjacent to the south east corner of the site. This reservoir services much of the east side of Wanaka and includes at least part of the CBD.
14. The rising main that supplies the treatment plant and reservoir runs from Lake Wanaka to the reservoir through the land subject to the requested zone change.
15. The Beacon Point Reservoir has a capacity of 3,500m³ and was constructed in 2004. At the time of design and construction sufficient space was made available on the site of the reservoir for a second 2,000m³ storage tank to be constructed at some point in the future when required. A copy of the Beacon Point Reservoir as-built drawing confirming the available site for the future additional storage at the site is attached as Attachment A.
16. Mr Glasner has confirmed that there should be sufficient water to supply the site⁴. This confirmation was on the basis that there could be up to 765 allotments⁵. We agree with this analysis and note that:
- The dwelling yield will be a lot lower than assumed by Mr Glasner.
 - There are significant upgrades to the water supply in Wanaka signalled in the QLDC Long Term Plan (LTP) that will further allow more water to be available from the Beacon Point reservoir to service land in the vicinity of the reservoir. These upgrades include an additional reservoir at Mt Iron and capacity increases at the Western Reservoir⁶.

⁴ Ibid - paragraph 6.14.

⁵ Ibid - paragraph 6.11.

⁶ Refer QLDC 10 Year Plan 2015-2025 – Volume 1 - Pages 38-39

17. The fact that less dwellings will arise from the any rezoning of the subject land and the future increases in capacity of the Wanaka Water Supply infrastructure signalled in the QLDC LTP give comfort to the view that water is able to be supplied to the site from existing Council infrastructure.
18. I agree with Mr Glasner's comments regarding the site elevation in relation to the Beacon Point Reservoir and the need for booster pumps to enable reticulation on the higher parts of the site⁷.
19. This requirement is similar to the requirement on the neighbouring Northlake land where water modelling has shown that any dwelling over RL 350 will require booster pumping. A copy of the Tonkin + Taylor report "Northlake Developments Water Supply Modelling" dated 10 February 2016 is attached as Attachment B.
20. I note that with the neighbouring Northlake site also needing some pressure boosting for future stages of development, the opportunity exists to gain efficiencies by increasing the number of dwellings to be serviced by either a booster pump or a higher level reservoir.
21. The provision of booster pumping has occurred in a number of areas within the district and does not hinder the ability to develop the subject land.

WASTEWATER

22. The site lies at the top of a ridge and as such has fall to both the west and east. Preliminary indications are that any development will occur such that approximately half of the natural fall of the land is towards the west and half to the east.
23. Due to this topography, it is likely that a wastewater pump station will be required in order to ensure that there was only one point of wastewater discharge from the site.
24. Subject to detailed design, available pipe routes and Council preference, the wastewater flows could drain to either the west or the east.

⁷ "Statement Of Evidence Of Ulrich Wilhem Glasner On Behalf Of Queenstown Lakes District Council Infrastructure - 20 March 2017" - paragraph 6.14.

25. Mr Glasner has stated that possible upgrades to the QLDC wastewater infrastructure that are currently unbudgeted for include:
- (a) *upgrade of the Outlet Road wastewater pump station;*
 - (b) *additional rising main (2.2 km); and*
 - (c) *upgrade/additional main along Aubrey Road to ABT#2 wastewater pump station approximately 2.8km away.⁸*
- This development may also trigger an upgrade of ABT#2 wastewater pump station.⁹*
26. I again note that the assumed dwelling yield in Mr Glasner's evidence is 765 whereas the actual lot yield will be much lower and in the order of approximately 150 dwellings. This much lower yield will likely lead to fewer, if any, unbudgeted upgrades being required due to this development.
27. Outlet Road is to the east of the subject land. Due to the extent of upgrades required, as indicated by Mr Glasner, the wastewater flows could be directed to drain to the west via existing or upgraded reticulation through the Peninsula Bay subdivision and flow to the Lakeside Road No. 1 Pump Station. From this pump station the wastewater flows are currently pumped into Wanaka CBD and eventually out to the main Wanaka treatment plant near the Wanaka Airport.
28. I note that in the QLDC LTP, there is a budgeted upgrade of the Lakeside Road No. 1 Pump Station and the provision of a rising main along Aubrey Road¹⁰. This will mean that in future, flows currently draining to the Lakeside Road No. 1 Pump Station will be go more directly to the treatment plant utilising only the Albert Town No. 2 Pump Station instead of passing through the Wanaka CBD and through three other pump stations.
29. The rezoning of the subject land will therefore assist with enabling a more efficient wastewater layout as flows from the subject land will get to the treatment plant utilising less infrastructure than if land in some other locations around Wanaka was developed in preference to this locality.

⁸ Ibid - paragraph 6.12.

⁹ Ibid - paragraph 6.13.

¹⁰ Refer QLDC 10 Year Plan 2015-2025 – Volume 1 - Pages 46-47

30. In response to the point raised by Mr Glasner regarding the possibility of this rezoning triggering an upgrade to the Albert Town No. 2 Pump Station (referenced as ABT#2), I understand that currently the Albert Town No. 2 Pump Station is the main pump station for Wanaka in that all wastewater flows from Wanaka Township pass through this pump station in order to reach the treatment plant near Wanaka Airport¹¹.
31. As such, it is not the location of any particular future subdivision that will drive the requirement for the upgrade of this pump station, but the overall growth in Wanaka Township.
32. Development contributions will be paid if and when allotments are created. These development contributions will allow QLDC to recover the cost of any future upgrades that are required to enable growth in Wanaka. Should the continued growth of Wanaka trigger an upgrade requirement for the Albert Town No. 2 Pump Station then this will be able to be added to the list of future works in subsequent LTP or Annual Plan processes and appropriate Development Contributions levied against the future allotments.

STORMWATER

33. As previously outlined, the site lies at the top of a ridge and has fall to both the east and the west.
34. In order to prevent the concentration of runoff onto neighbouring land and in the absence of any significant reticulation nearby the site, it is expected that the provision of stormwater drainage for the site will necessarily involve usage of Low Impact Design principles.
35. Low-impact development (LID) is a term used to describe a land planning and engineering design approach to manage stormwater runoff. LID emphasizes conservation and use of on-site natural features to protect water quality. This approach implements engineered small-scale hydrologic controls to replicate the pre-development hydrologic regime of watersheds through infiltrating, filtering, storing, attenuating and detaining runoff close to its source.

¹¹ Refer QLDC GIS Mapping system: <http://maps.qldc.govt.nz/qldcviewer/>

36. This approach has been used to some extent on the Peninsula Bay subdivision to the west of the subject land and is currently being implemented on the Northlake development to the east of the subject land. I am aware that it is being implemented and used elsewhere in Wanaka and the District.
37. I would expect that this approach could be successfully implemented on the subject land following detailed investigations, analysis and design. The approach to stormwater runoff would be a key driver in developing an overall development plan for the site as runoff interception prior to flows departing site would be required. We note that there are several points around the perimeter of the site where both large and small ephemeral water courses are expected to form during a prolonged and heavy rainfall event. These will need to be managed to ensure that there is no concentration of flows onto neighbouring land following development.

CONCLUSIONS

38. A suitable water supply for the site is available and feasible to undertake. This has been confirmed in principle by Mr Glasner and is further reinforced when taking account of the likely lower number of dwellings to be created and the future overall capacity increases in the Wanaka water supply.
39. Development of the subject land could be done in such a way as at to be in keeping with the already planned wastewater upgrades. This involves reticulating wastewater flows to the west and towards the existing Lakeside Road No. 1 Pump Station. Already flagged future upgrades of this pump station and rising main means that future wastewater flows from the subject land will be managed much more efficiently than if growth occurs in other parts of Wanaka where the wastewater flows pass through three or more pump stations prior to reaching the main Albert Town No. 2 Pump Station and subsequent pumping to the treatment plant near Wanaka Airport.
40. Any growth in Wanaka will lead to the requirement for upgrades of the Albert Town No 2 Pump Station. The future development of the site is a

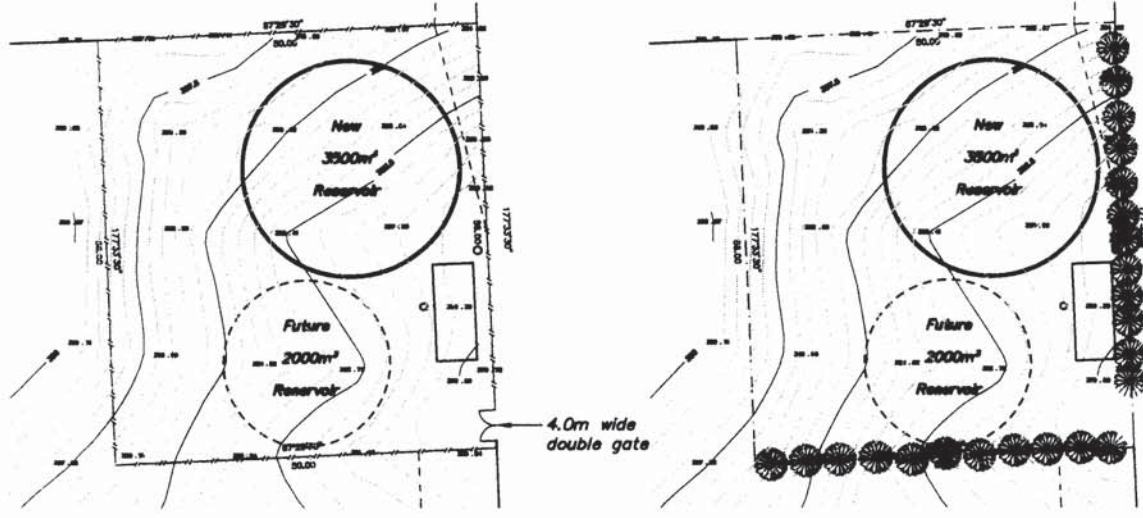
response to growth and not a driver of growth and as such is not solely responsible for the triggering of upgrades to the pump station.

41. Stormwater is currently being managed using Low Impact Design principles adjacent to the subject land and at other developments around Wanaka. Subject to recommendations and appropriate evolution of lot layout concepts, I expect that this approach will be able to implemented on the subject land in order to adequately manage stormwater runoff.

Attachment A Beacon Point Reservoir Site Plan.

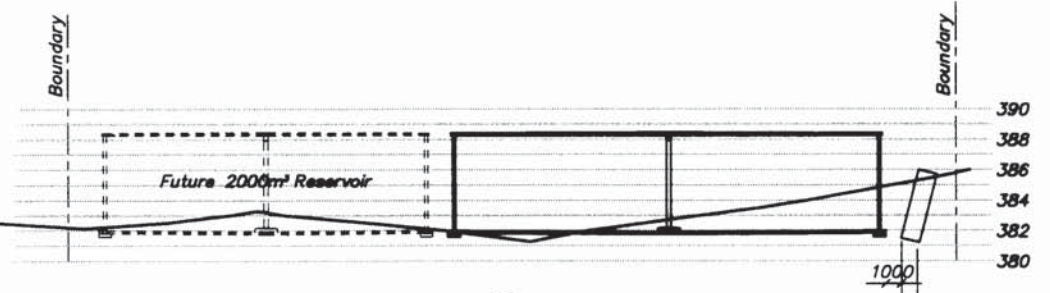
Attachment B Tonkin + Taylor report "Northlake Developments Water Supply Modelling" dated 10 February 2016

John McCartney
4 April 2017

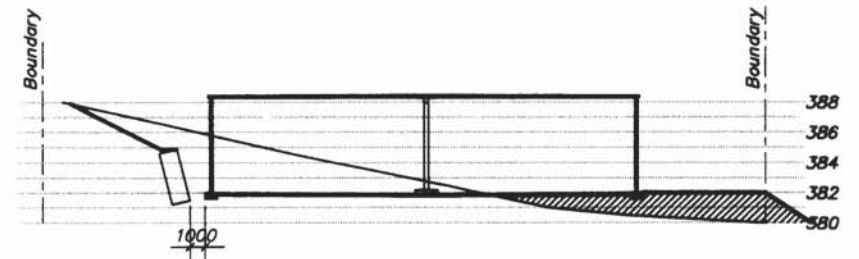


FENCING LAYOUT PLAN
1:500 at A1
1:1000 at A3

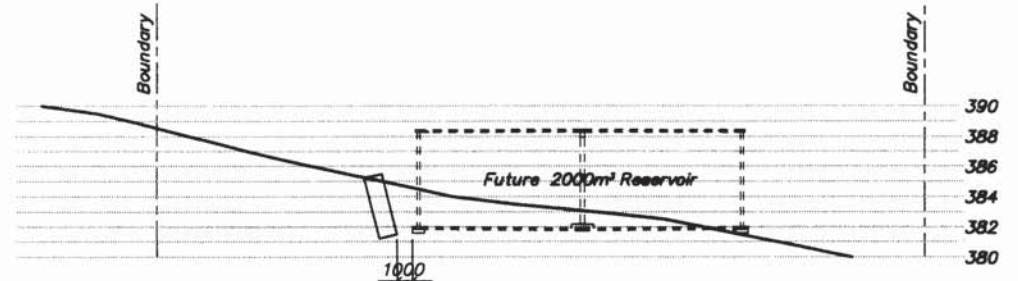
PLANTING LAYOUT PLAN
1:500 at A1
1:1000 at A3



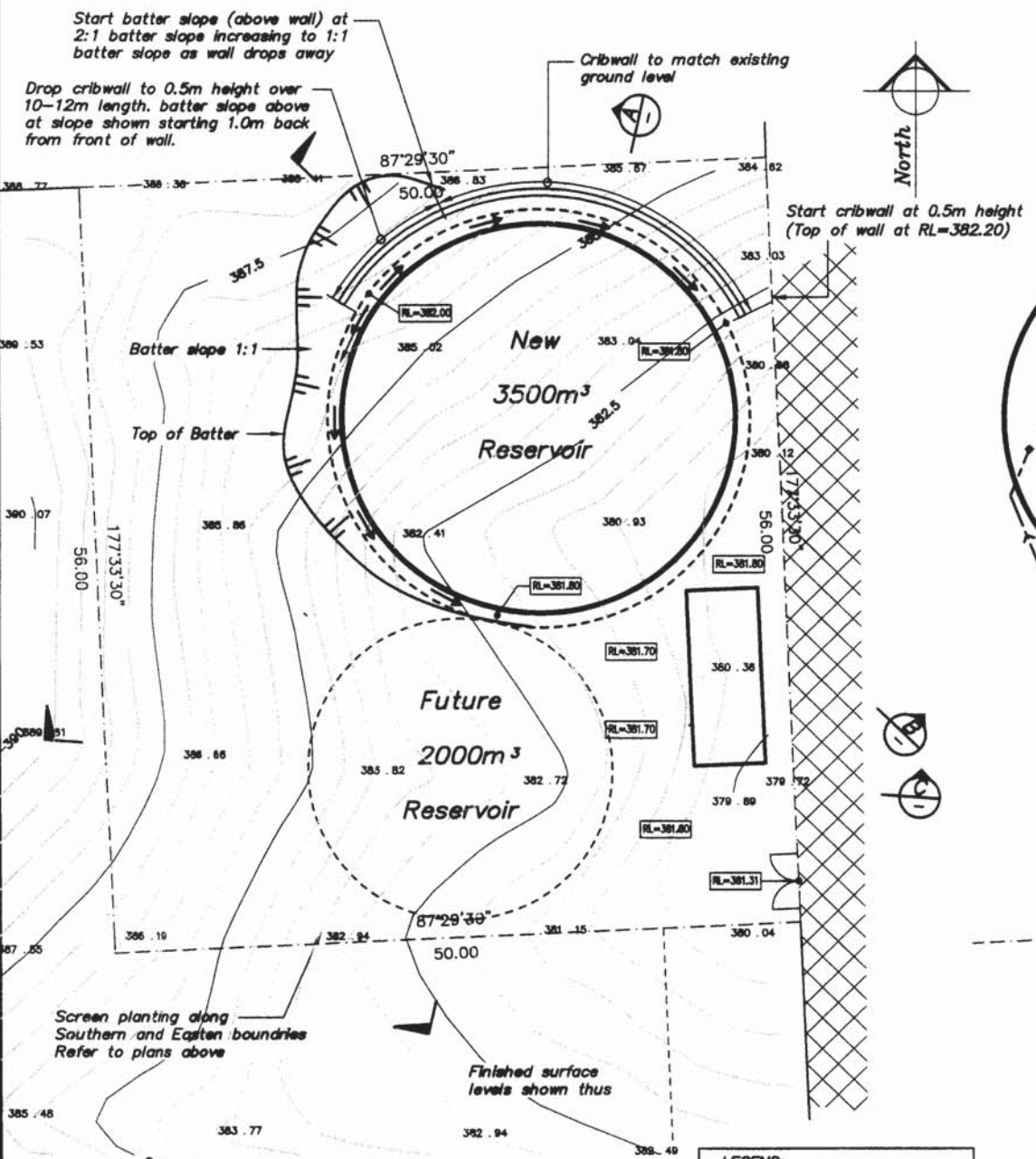
SECTION A
1:250 at A1
1:500 at A3



SECTION B
1:250 at A1
1:500 at A3



SECTION C
1:250 at A1
1:500 at A3

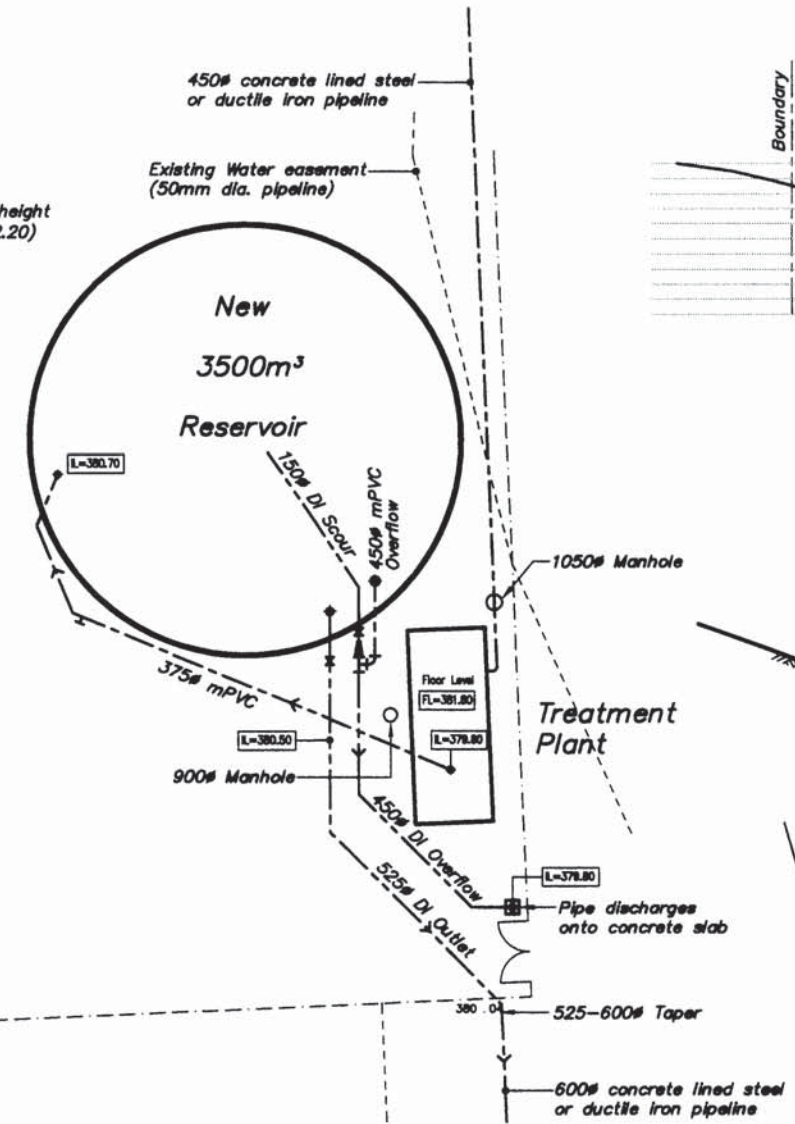


LAYOUT PLAN
1:250 at A1
1:500 at A3

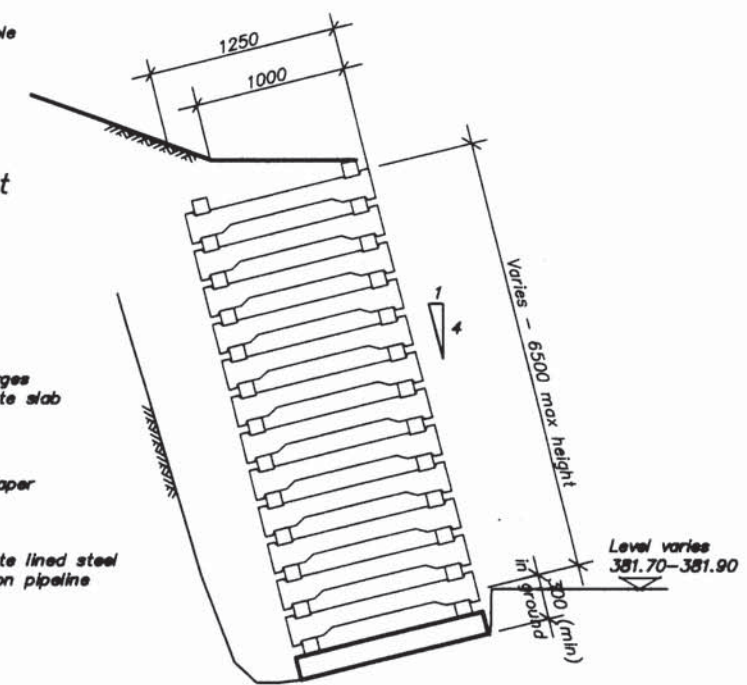
Legal Description: Lot 13 DP 300734

LEGEND:

	Fill at slope 1:1.5
	Rising Main
	Gravity Main
	Crib Wall
	Fencing



PIPELINE LAYOUT PLAN
1:250 at A1
1:500 at A3



TYPICAL CRIB WALL SECTION
1:25 at A1
1:50 at A3
1200 SERIES CRIB WALL

A As-Built		11/11
No.	Revisions	Date App'd
Designed	A.Steel	Date 4/03 Print Date
Drawn	J.Knox	Apr'03
Checked		
Approved		
File	Ref	cRES-L1

Client
QUEENSTOWN LAKES DISTRICT COUNCIL

Project
CONTRACT No 417
WANAKA WATER SUPPLY BEACON POINT SYSTEM

Sheet Title
NEW RESERVOIR SITE LAYOUT PLAN AND TYPICAL SECTIONS

Job No.	Sheet No.	Revision
57388	R1	A
	of	sheets

Duffin Watts King Ltd

Job No: 50553.324
10 February 2016

Queenstown Lakes District Council
Private Bag 50072
Queenstown 9348

Attention: Rob Darby

Dear Rob

Northlake Developments Water Supply Modelling

1 Introduction

Tonkin and Taylor Ltd (T+T) was engaged¹ by Queenstown Lakes District Council (QLDC) to undertake water supply modelling for the proposed Northlake subdivision in Wanaka. The scope of work completed by T+T includes modelling of interim and ultimate development scenarios to determine whether levels of service in the area can be met by the proposed water supply reticulation sizing and layout.

11 stages of development are proposed across four different landowners (Northlake Investments Limited, Urquhart, Allenby Farms Limited and Gilbertson). Initial modelling connected the first four stages (owned by Northlake Investments Ltd.) into the existing Northlake reticulation off Aubrey Road. The ultimate scenario expanded on this initial modelling to include all of Stages 1-11. These zones were all connected into the current network through connections to the Beacon Point outflow pipe and Aubrey Road. Refer to Appendix A for maps of the proposed layout and a contour plan of the area.

2 Network setting

Existing development in the Northlake area is confined to an approximately 30 hectare block north of Aubrey Road. This area, as well as areas surrounding Aubrey Road, is serviced by the Beacon Point inlet booster stations on the bank of Lake Wanaka, and corresponding reservoir, situated at an elevation of 382 m RL. The existing Northlake development water reticulation network connects into the current Wanaka network at three locations along the 375 mm Aubrey Road main – via two 150 mm mains which reticulate water throughout the development and one 100 mm lateral.

2.1 Criteria and assumptions

The purpose of the water supply modelling was to determine whether the proposed Northlake Development reticulation sizing and layout would allow QLDC levels of service and firefighting requirements to be met. The following demand scenarios were modelled to determine this:

¹ Email between Dominic Fletcher (T+T) and Rob Darby (QLDC) dated Wednesday 13 January 2016.

- Peak day demand – To determine whether available fire flows achieve the firefighting requirements as per NZS 4509:2008.
- Peak hour demand – To determine whether minimum residual pressures at each connection are ≥ 300 kPa.

The firefighting water classification for the development is FW2 (12.5 l/s within a distance of 135 m from any point in the network with an additional 12.5 l/s available within a distance of 270 m).

2.2 Design demands

The average daily demands (ADF) for each of Stages 1-11, as well as the existing Northlake developed area off Aubrey Road, were calculated by assuming a water allocation of 700 l/person/day and 3 people per lot (refer Appendix B). Development demands during the peak day and peak hour demand scenarios were calculated as follows:

- Peak day flow (PDF) = 3.3 x ADF.
- Peak hour flow (PHF) = 6.6 x ADF.

Table 1 Calculated demands for the existing development and Scenarios One and Two (refer Appendix B for individual stage demands)

Area	ADF (l/s)	PDF (l/s)	PHF (l/s)
Existing Northlake development	1.31	4.33	8.66
Scenario One (Stages 1-4)	13.17	43.47	86.95
Scenario Two (Stages 1-11)	30.31	100.02	200.04

3 Modelled scenarios

Two scenarios were modelled, an initial scenario and ultimate scenario. Modelling assumed the current Wanaka peak day design network demands and reticulation and did not take into consideration future network upgrades or demand increases beyond those mentioned below for the Northlake Development.

3.1 Initial Scenario: Stages 1-4

The initial scenario extended the existing 150 mm rising mains servicing the current network development north of Aubrey Road into Stages 1-4. These 150 mm mains were then connected via a 300 mm main (refer Appendix C for network layout). Modelling of this scenario was undertaken to determine whether the proposed interim reticulation upgrades would meet levels of service for the areas and the effect, if any, on the existing network.

3.2 Ultimate development: Stages 1-11

The ultimate scenario consisted of all 11 proposed stages across the Northlake, Allenby, Gilbertson and Urquhart developments. The modelled network extended the 300 mm main in the initial scenario to connect both into the Beacon Point reservoir outlet pipe to the west of the development, as well as into the existing 375 mm Aubrey Road falling main to the east of the development. Three laterals of diameter size 100 mm and 150 mm extended off the 300 mm main to service Stages 6-8.

4 Modelling results

4.1 Scenario One: Stages 1-4

Modelling determined that the Beacon Point Reservoir (382 m RL) and corresponding network infrastructure has sufficient capacity to meet the additional 47.80 l/s demand of Stages 1-4 with little impact on pressure and demand to the surrounding current network. However, minimum residual pressures of 300 kPa were not met at areas of higher elevation (above 343 m RL). This is due to the reservoir elevation relative to the higher levels of the development and is not considered as a result of head losses in the network (refer Appendix C for results).

It is noted that minimum residual pressures in the current network off Aubrey Road were not all greater than 300 kPa prior to the addition of the Scenario 1 upgrades. This is considered due to the high elevation of certain areas of the network in comparison to the elevation of the Beacon Point reservoir.

Modelling of available firefighting flows took into consideration local head loss at each fire hydrant. Results determined that the required firefighting category FW2 (25 l/s) was available throughout the network for Stages 1-4.

Table 2 Residual pressures and fire flows at each junction throughout the existing development north of Aubrey Road and proposed Scenario One network

Area	Junction ID	Elevation (m RL)	Minimum Residual Pressure(kPa)	Available Fire flow (l/s) (Inc. hydrant losses)
Existing Network	922	332	481 ≥ 300 OK	> 50 l/s OK
	912	348	265 < 300 NOT OK	46 ≥ 25 l/s OK
	919	352	206 < 300 NOT OK	41 ≥ 25 l/s OK
	918	356	147 < 300 NOT OK	34 ≥ 25 l/s OK
	917	348	196 < 300 NOT OK	40 ≥ 25 l/s OK
	916	348	216 < 300 NOT OK	42 ≥ 25 l/s OK
	911	348	216 < 300 NOT OK	43 ≥ 25 l/s OK
	956	346	235 < 300 NOT OK	44 ≥ 25 l/s OK
	910	331	383 ≥ 300 OK	>50 l/s OK
	923	331	383 ≥ 300 OK	40 ≥ 25 l/s OK
	914	331	441 ≥ 300 OK	>50 l/s OK
	915	333	422 ≥ 300 OK	43 ≥ 25 l/s OK
	925	346	294 < 300 NOT OK	43 ≥ 25 l/s OK
	924	346	255 < 300 NOT OK	36 ≥ 25 l/s OK
920	343	235 < 300 NOT OK	44 ≥ 25 l/s OK	
Northlake	927	331	363 ≥ 300 OK	> 50 l/s OK
Stage 1	928	343	284 < 300 NOT OK	> 50 l/s OK
	926	347	137 < 300 NOT OK	38 ≥ 25 l/s OK
	930	329	324 ≥ 300 OK	> 50 l/s OK
Stage 2	933	351	206 < 300 NOT OK	47 ≥ 25 l/s OK
Stage 3	932	351	196 < 300 NOT OK	45 ≥ 25 l/s OK
	929	352	196 < 300 NOT OK	40 ≥ 25 l/s OK
Stage 4	931	329	314 ≥ 300 OK	39 ≥ 25 l/s OK

4.2 Scenario Two: Ultimate development

Modelling indicated that with the additional demand for the ultimate development on top of current network operations, the Beacon Point reservoir would drain to empty towards the peak hour of the day without further network upgrades. This means levels of service are unable to be met throughout the ultimate development without upgrades to the current network.

The third pump at the Beacon Point inlet was included as a duty assist pump for modelling purposes, with the same duty head as the two existing operational pumps. Operation of all three pumps enabled network demands to be met, noting that specific assessment of the current intake ability to enable three pumps to operate concurrently has not been undertaken as part of this modelling work.

With the third operational pump at the intake, the required levels of service and firefighting flows in the area were not achieved for the higher areas in the development due to the elevation difference with the Beacon Point Reservoir (refer Appendix D). Table 3 below details the minimum residual pressures and fire flows achievable at each modelled junction in the development.

The results show that with three operating pumps, the required network demands and levels of service are achievable for the Gilbertson and Urquhart developments and Stages 1-4 of the Northlake Investments Limited development. However, due to the high elevation of the Allenby Farms Ltd development and Stages 6-8 of the Northlake Investments Ltd development, the same requirements cannot be met without localised pressure boosting or an additional upper reservoir. In general, this applies to all development and network connections at or above 355 m RL.

The proposed development pipe network is adequate to meet the additional development demands but only with localised boosting to higher areas of the network and upgrades to the current Beacon Point reservoir. An additional reservoir situated at the highest point in the network (414 m RL) could provide adequate levels of service to all areas below 384 m RL. However, the highest point in the proposed development is 393 m RL and therefore localised boosting would be required to meet areas of elevation higher than 384 m RL in the proposed development.

A small area in the existing network Northlake (around Junctions 918 and 919, refer Appendix B) does not meet levels of service for pressure due to its relative elevation to the Beacon Point Reservoir. Localised pressure boosting or connection to a higher pressure zone would be necessary to enable the 300 kPa minimum pressure requirement to be met in this location.

Table 3 Levels of service throughout the ultimate development with an additional pump at the Beacon Point intake

Area	Junction ID	Elevation (m RL)	Minimum Residual Pressure (kPa)	Available Fire Flow (l/s)
Existing Network	922	332	491 ≥ 300 OK	> 50 l/s OK
	912	348	324 ≥ 300 OK	> 50 l/s OK
	919	352	284 < 300 NOT OK	50 ≥ 25 l/s OK
	918	355	245 < 300 NOT OK	44 ≥ 25 l/s OK
	917	348	304 ≥ 300 OK	50 ≥ 25 l/s OK
	916	348	324 ≥ 300 OK	> 50 l/s OK
	911	348	324 ≥ 300 OK	> 50 l/s OK
	956	346	334 ≥ 300 OK	> 50 l/s OK
	910	331	481 ≥ 300 OK	> 50 l/s OK
	923	331	481 ≥ 300 OK	45 ≥ 25 l/s OK

Area	Junction ID	Elevation (m RL)	Minimum Residual Pressure (kPa)	Available Fire Flow (l/s)
	914	331	481 ≥ 300 OK	> 50 l/s OK
	915	333	471 ≥ 300 OK	47 ≥ 25 l/s OK
	925	346	353 ≥ 300 OK	41 ≥ 25 l/s OK
	924	346	334 ≥ 300 OK	41 ≥ 25 l/s OK
	920	343	363 ≥ 300 OK	> 50 l/s OK
Stage 1(Northlake)	927	331	491 ≥ 300 OK	> 50 l/s OK
	928	343	461 ≥ 300 OK	> 50 l/s OK
	926	347	314 ≥ 300 OK	> 50 l/s OK
	930	329	500 ≥ 300 OK	> 50 l/s OK
Stage 2 (Northlake)	933	351	383 ≥ 300 OK	> 50 l/s OK
Stage 3 (Northlake)	932	351	383 ≥ 300 OK	> 50 l/s OK
	929	352	383 ≥ 300 OK	> 50 l/s OK
Stage 4 (Northlake)	931	329	491 ≥ 300 OK	48 ≥ 25 l/s OK
Stage 5 (Allenby Farms Ltd)	934	345	343 ≥ 300 OK	> 50 l/s OK
	935	350	304 ≥ 300 OK	> 50 l/s OK
	936	355	255 < 300 NOT OK	48 ≥ 25 l/s OK
	937	362	196 < 300 NOT OK	40 ≥ 25 l/s OK
	938	366	167 < 300 NOT OK	34 ≥ 25 l/s OK
	939	359	245 < 300 NOT OK	45 ≥ 25 l/s OK
	945	370	118 < 300 NOT OK	23 < 25 l/s NOT OK
Stage 6 (Northlake Investments Ltd.)	950	346	334 ≥ 300 OK	50 ≥ 25 l/s OK
	946	372	98 < 300 NOT OK	16 ≤ 25 l/s NOT OK
Stage 7(Northlake Investments Ltd.)	951	357	226 < 300 NOT OK	34 ≥ 25 l/s OK
	952	359	206 < 300 NOT OK	30 ≥ 25 l/s OK
	953	361	186 < 300 NOT OK	27 ≥ 25 l/s OK
Stage 8 (Northlake Investments Ltd.)	949	393	0 < 300 NOT OK	0 ≤ 25 l/s NOT OK
	948	378	39 < 300 NOT OK	0 ≤ 25 l/s NOT OK
	947	374	78 < 300 NOT OK	8 ≤ 25 l/s NOT OK
Stage 9 (Urquhart)	954	329	481 ≥ 300 OK	32 ≥ 25 l/s OK
	955	329	402 ≥ 300 OK	23 ≤ 25 l/s NOT OK
Stage 10 (Gilbertson)	943	328	510 ≥ 300 OK	> 50 l/s OK
	944	329	500 ≥ 300 OK	> 50 l/s OK
Stage 11 (Gilbertson)	942	326	530 ≥ 300 OK	> 50 l/s OK

5 Conclusion

There is sufficient capacity for the Beacon Point reservoir to meet both peak day demand and fire flow levels of service requirements of Stages 1-4 of the Northlake Development with the proposed network. However, due to the elevations in the development, not all areas are able to achieve minimum residual pressure. Localised pressure boosting for areas above 350 m RL elevation would be necessary to ensure a minimum residual pressure of at least 300 kPa is achieved throughout the network (for Stages 1 -4 reticulation only).

Three Beacon Point intake pumps are required to operate (duty-assist-assist type operation) to meet current design network demands with the additional design demand from the full development (Stages 1 - 11) on the design peak day.

Provided the increased network demand can be met by Beacon Point intake (i.e. an additional operational pump at the Beacon Point intake), levels of service can be met within the development for the proposed areas below 355 m RL (i.e. Stages 1 - 4 and 9 - 11). Localised boosting (i.e. pump stations and/or upper reservoir) to areas of higher elevation (i.e. Stages 5 – 8) in the proposed development and isolated areas in the existing Northlake development network is required to enable levels of service requirements to be met.

The proposed development pipe network capacity is adequate for the design demands modelled and when combined with pressure boosting measures (to overcome the elevation difference between the development area and the Beacon Point Reservoir). Specific pressure boosting measures (i.e. upper reservoir and/or pump station(s)) have not been modelled.

6 Applicability and closure

The model is a numerical representation of the physical reality, and subsequently bears some uncertainty. The demands and peaking factors used are based on assumptions regarding the patterns of water use in the township, and are an approximation of the physical reality. Hence, actual demands within the network may differ from those modelled.

The modelling results presented in this report show the levels of service for the proposed developments to the Wanaka network, based on adopted design demands and particular network upgrades, and are not a guarantee of available levels of service in the future. In addition, modelling has been undertaken using the current partially calibrated Mike Urban dynamic model for Wanaka. QLDC are in the process of developing a new water supply model and results may vary between the existing and new models.

This report has been prepared for the benefit of Queenstown Lakes District Council, with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose without out prior review and agreement.

Tonkin & Taylor Ltd

Environmental and Engineering Consultants

Report prepared by:

Authorised for Tonkin & Taylor Ltd by:

.....

.....

Michaela Aspell

Grant Lovell

Civil Engineer

Project Director

Technical review by: Dominic Fletcher (Water Resources Engineer)

MLAA

p:\50553\50553.3 - wanaka\50553.3240 - northlake\workingmaterial\2016-02-10.mlaa.ltr rpt.northlake developments v4.docx






Appendix A: Draft Development Plans (Winton Partners)

DRAFT

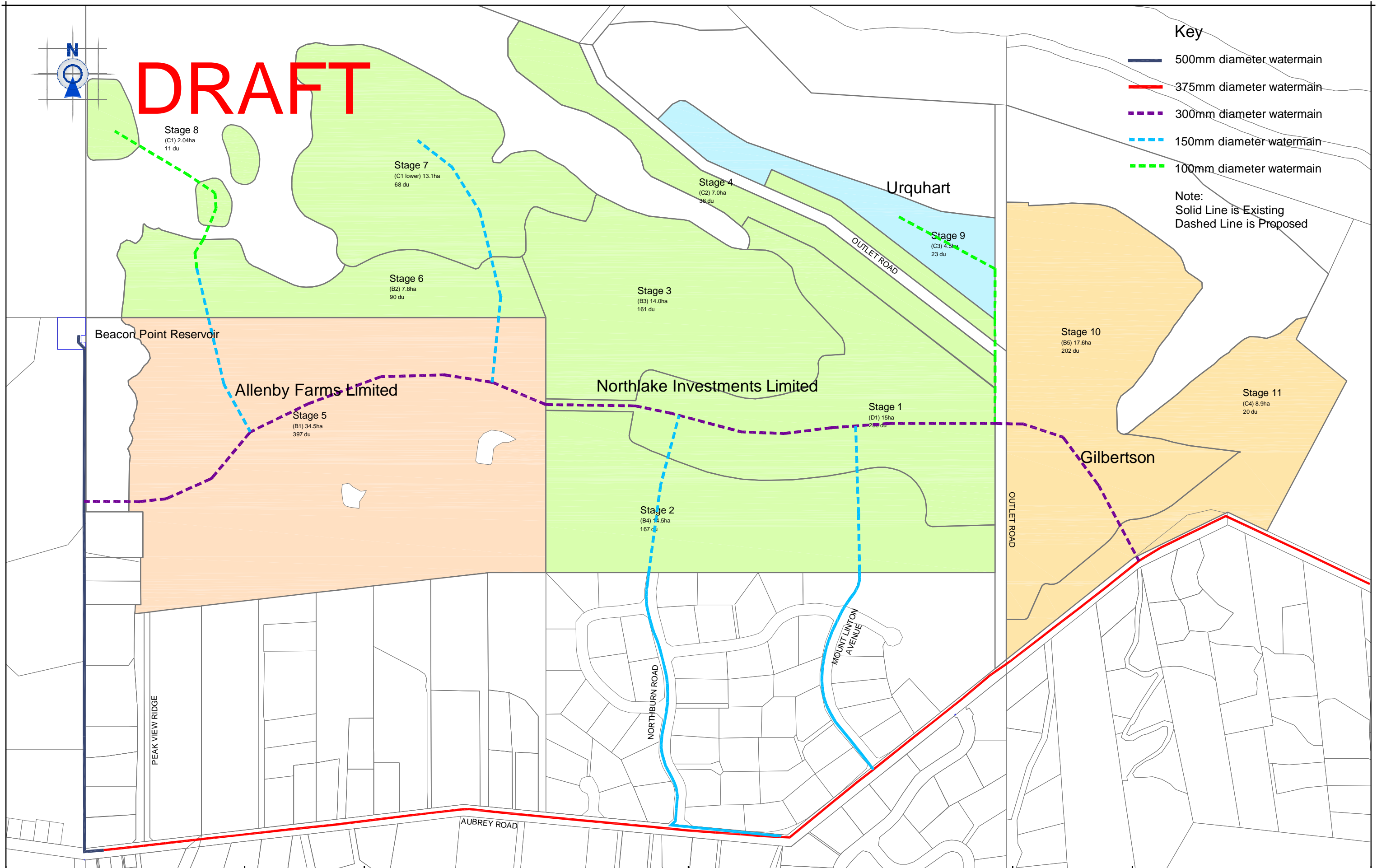


DRAFT

Key

-  500mm diameter watermain
-  375mm diameter watermain
-  300mm diameter watermain
-  150mm diameter watermain
-  100mm diameter watermain

Note:
Solid Line is Existing
Dashed Line is Proposed



PATERSONPITTSGROUP
 Your Land Professionals
 www.ppgroup.co.nz
 0800 PPGROUP

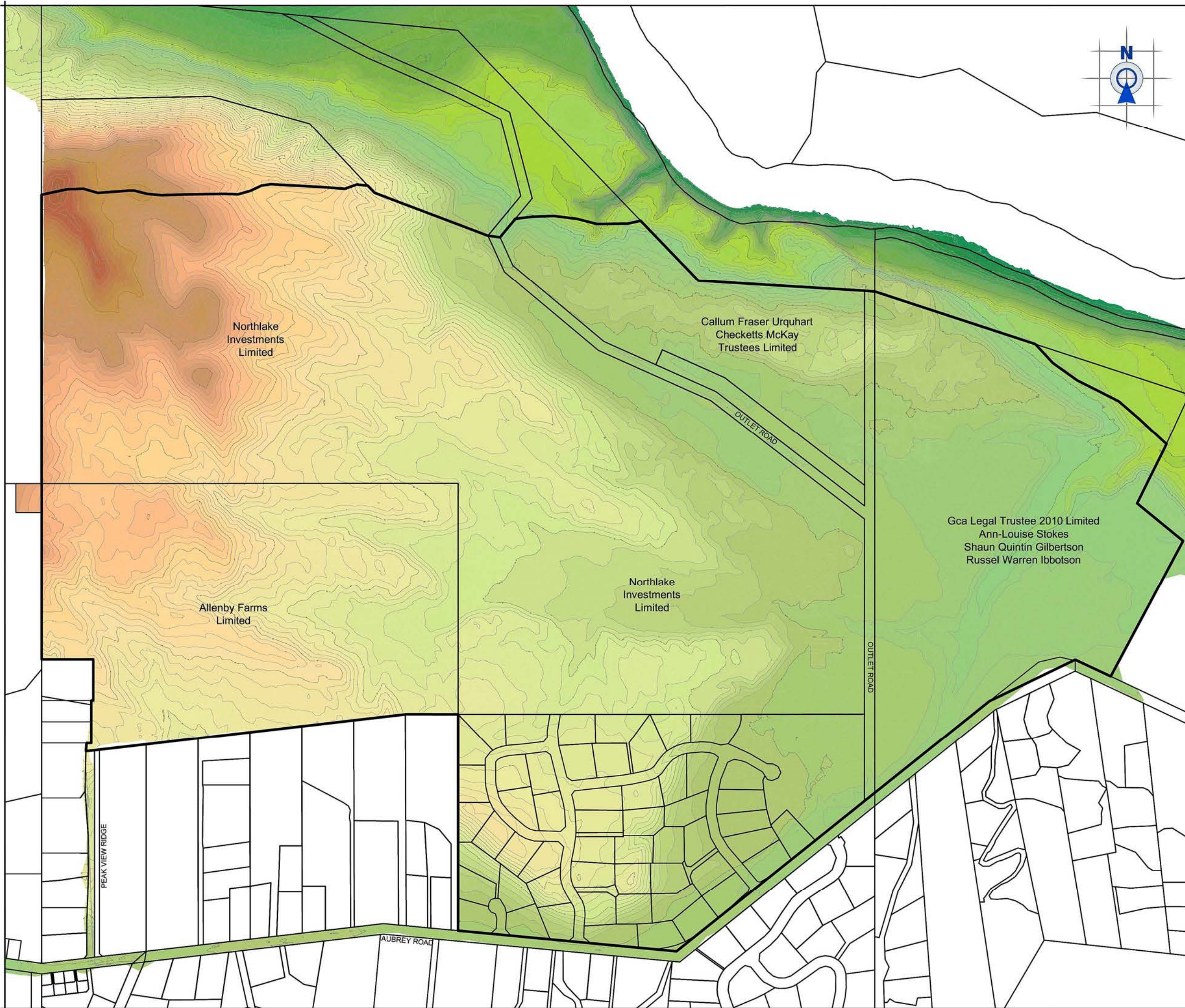
WANAKA BRANCH
 19 Reece Crescent
 or P.O. Box 283
 Wanaka 9343
 T 03 443 0110
 E wanaka@ppgroup.co.nz

Client & Location:
**Winton Partners
 NORTHLAKE**

Purpose & Drawing Title:
**Northlake Stages 1 - 11
 Primary Watermains**

© COPYRIGHT. This drawing content and design remains the property of Paterson Pitts Group Limited and may not be reproduced in part or full or altered without the written permission of Paterson Pitts Group Limited. This drawing and its content shall only be used for the purpose for which it is intended. No liability shall be accepted by Paterson Pitts Group Limited for its unauthorized use.

Surveyed by:	-	Original Size:	A3	Scale:	1:6000 @ A3
Designed by:	MJB				
Drawn by:	MJB				
Checked by:	MJB				
Approved by:	MJB				DO NOT SCALE
Job No:	W4481-7	Sheet No:	2e	Revision No:	1
				Date Created:	17/12/2015



KEY

- 430 - 420m
- 420 - 410m
- 410 - 400m
- 400 - 390m
- 390 - 380m
- 380 - 370m
- 370 - 360m
- 360 - 350m
- 350 - 340m
- 340 - 330m
- 330 - 320m
- 320 - 310m
- 310 - 300m
- 300 - 290m
- 290 - 280m
- 280 - 270m

— Zone Boundary
 - - - Parcel Boundaries

Contour Interval = 2m

PATERSONPITTSGROUP
 Your Land Professionals
 www.ppgroup.co.nz
 0800 PPGROUP

WANAKA
 19 Reece Crescent
 or P.O. Box 283
 Wanaka 9343
 T 03 443 0110
 E wanaka@ppgroup.co.nz

© COPYRIGHT. This drawing, content and design remains the property of Paterson Pitts Group Limited and may not be reproduced in part or full or altered without the written permission of Paterson Pitts Group Limited. This drawing and its content shall only be used for the purpose for which it is intended. No liability shall be accepted by Paterson Pitts Group Limited for its unauthorized use

Client & Location:
**Winton Partners
 WANAKA**

Purpose & Drawing Title:
**Northlake
 Contour Plan**

Surveyed by:	-	Original Size:	Scale:
Designed by:	-	A3	1:7000 @ A3
Drawn by:	RP		DO NOT SCALE
Checked by:	MJB		
Approved by:	-	Job No:	Revision No:
		W4481-7	0
		Drawing No:	Date Created:
		006	17/12/2015
		Sheet No:	
		102	

Appendix B: Modelling Design Demands

DRAFT

Job no. 50553.324
 Description Northlake Developments Water Supply Modelling Demands
 Computed 15/01/2015 mlaa

NORTHLAKE SUBDIVISION

Density 3 people/lot
 Water allowance 700 l/person/day

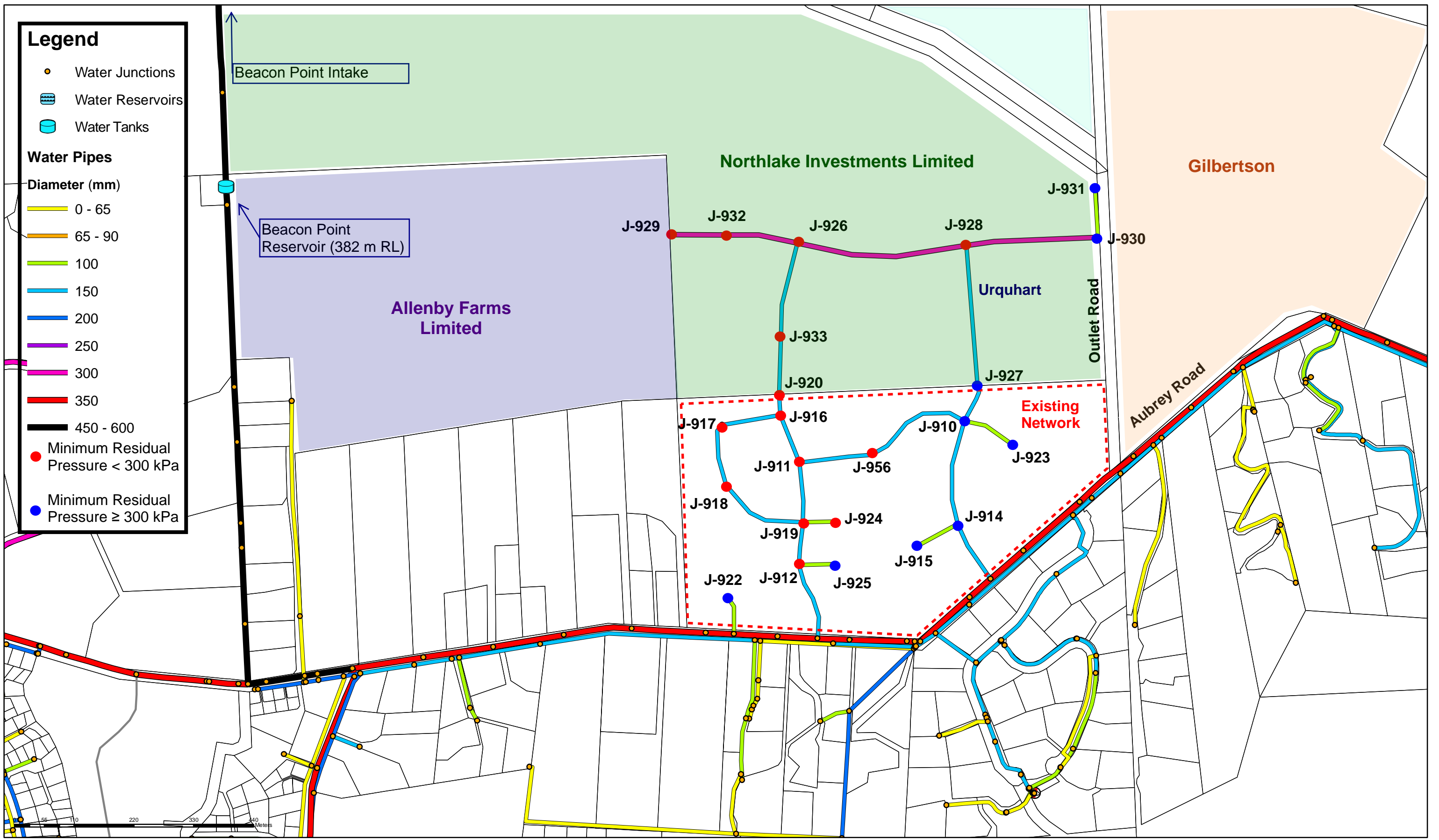
Stage	No. of lots	ADF (l/s)	PDF (l/s)	PHF (l/s)
1	225	5.47	18.05	36.09
2	145	3.52	11.63	23.26
3	140	3.40	11.23	22.46
4	32	0.78	2.57	5.13
Scenario 1 (1-4)	542	13.17	43.47	86.95
5	345	8.39	27.67	55.34
6	78	1.90	6.26	12.51
7	59	1.43	4.73	9.46
8	9	0.22	0.72	1.44
9	20	0.49	1.60	3.21
10	176	4.28	14.12	28.23
11	18	0.44	1.44	2.89
Scenario 2 (1-11)	1247	30.31	100.02	200.04

EXISTING NETWORK NORTH OF AUBREY ROAD

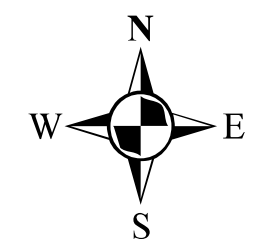
Density (people/lot)	3
Water allowance (l/person/day)	700
Number of lots	54
ADF (l/s)	1.31
PDF (l/s)	4.33
PHF (l/s)	8.66

Appendix C: Initial Scenario: Stages 1-4

DRAFT



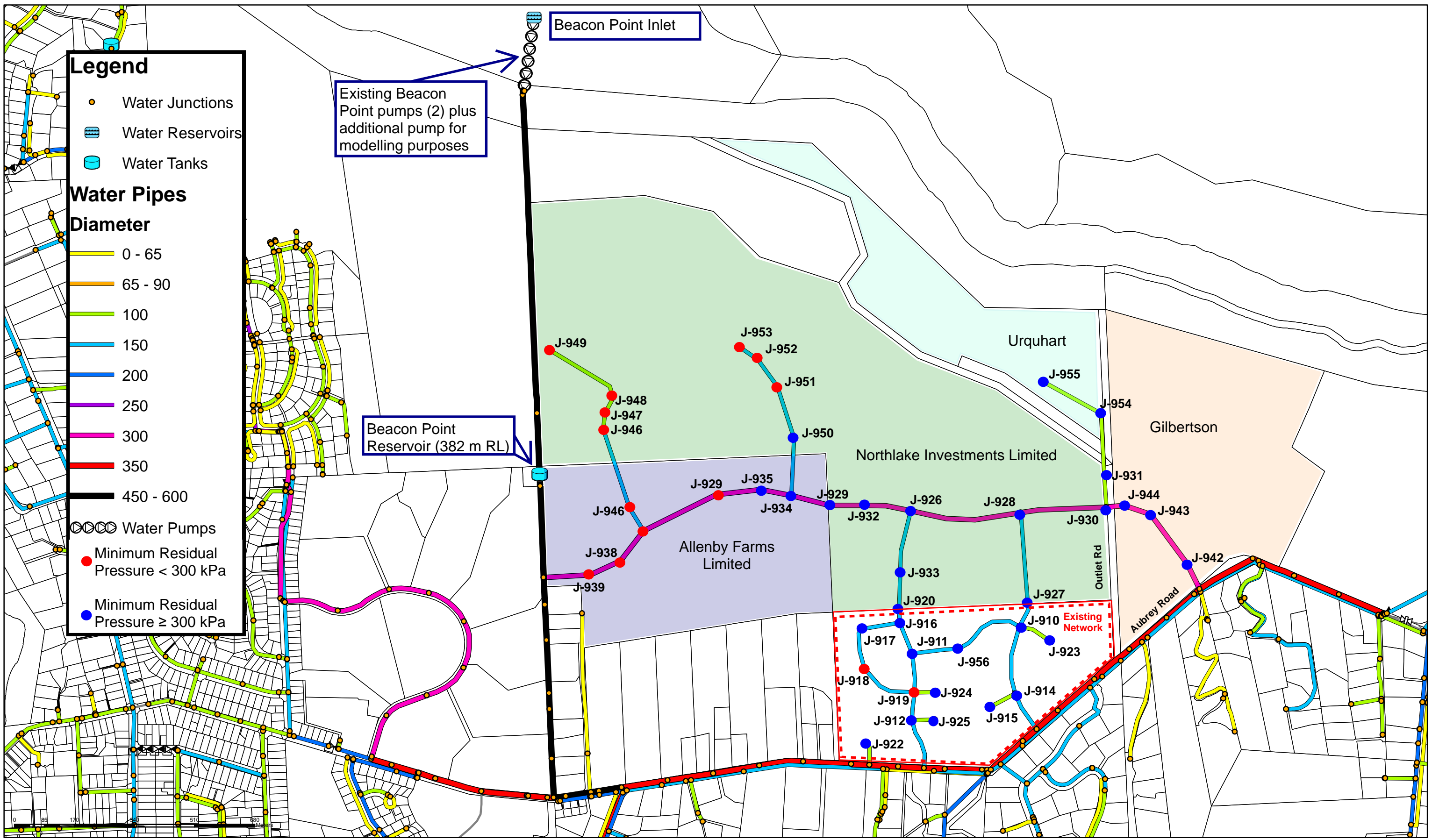
Initial Scenario: Stages 1-4
Water Supply Reticulation



Drawn By:	MLAA
Date:	04/02/2016
Approved:	
Scale:	1:6,500

Appendix D: Ultimate scenario (All Stages)

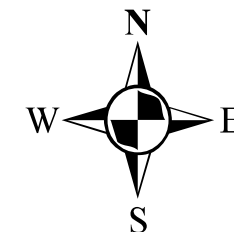
DRAFT



Ultimate Development
Water Supply Reticulation
- with additional inlet pump

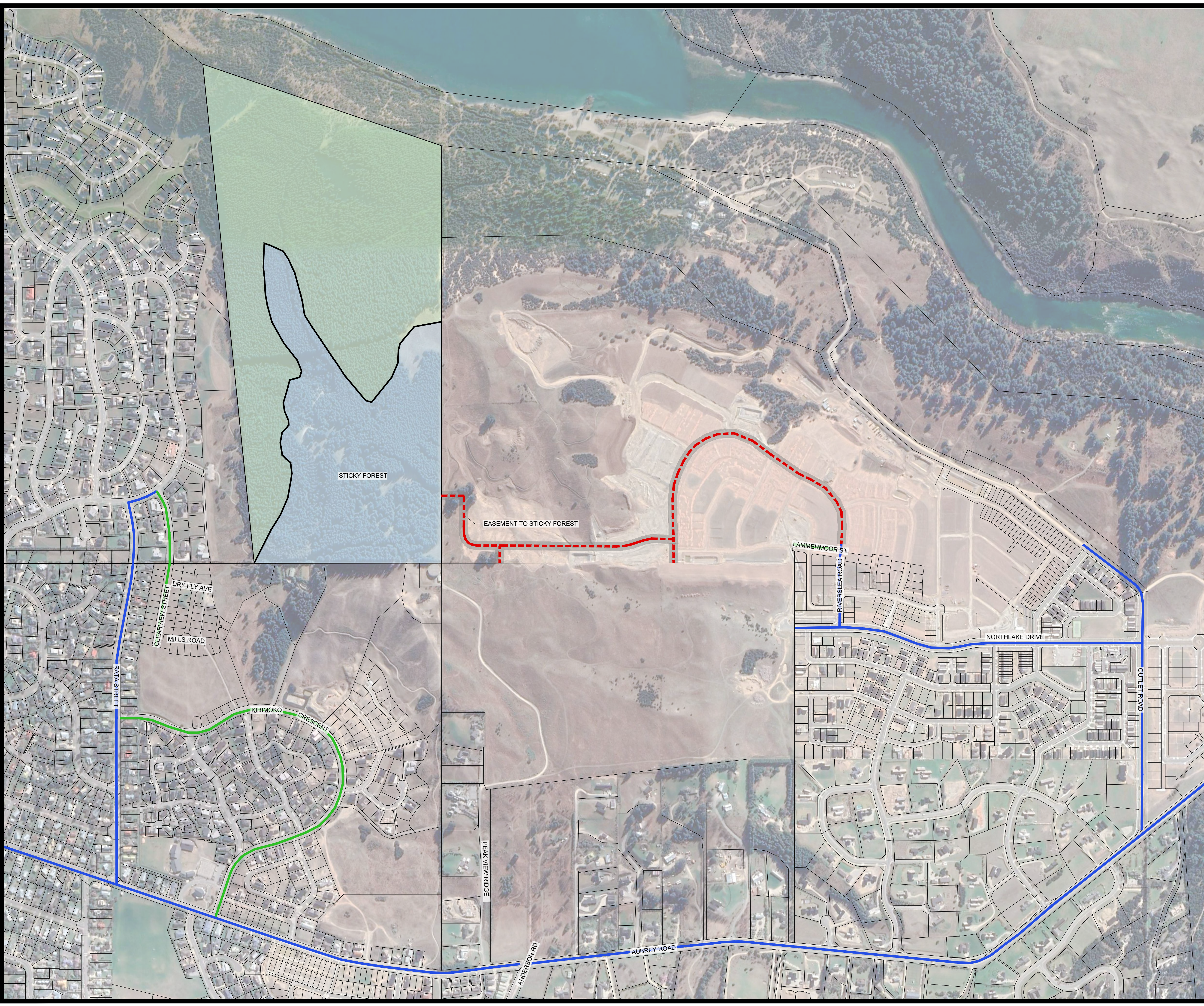
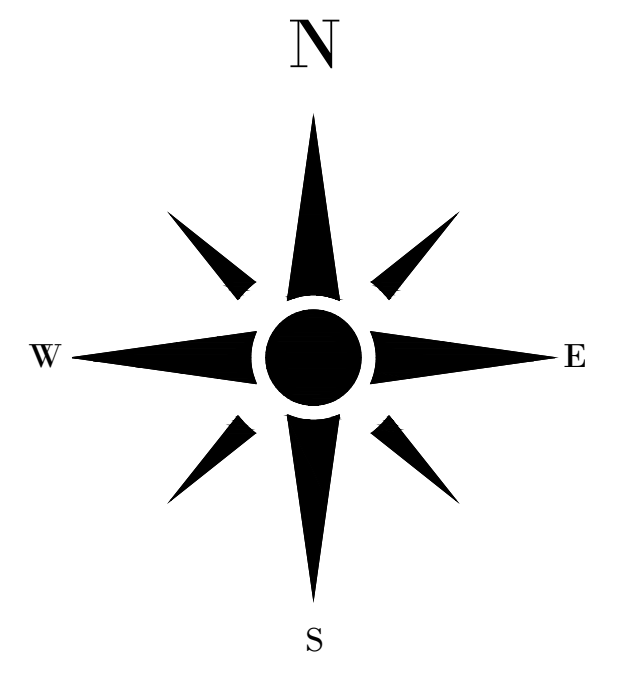
MIKE URBAN

Tonkin+Taylor



Drawn By:	MLAA
Date:	04/02/2016
Approved:	
Scale:	1:10,000

ATTACHMENT 2 – AFFECTED AREA EASEMENT PLAN



Job
STICKY FOREST, WANAKA

Title
EXISTING ROADING NETWORK AND PROPOSED EASEMENT TO STICKY FOREST

Issue	Date	Reason	Approved
A	04/21	FOR DISCUSSION	CP
			approved

Origin of Levels BM
 Level Datum
 Projection - New Zealand Geodetic 2000
 Circuit -

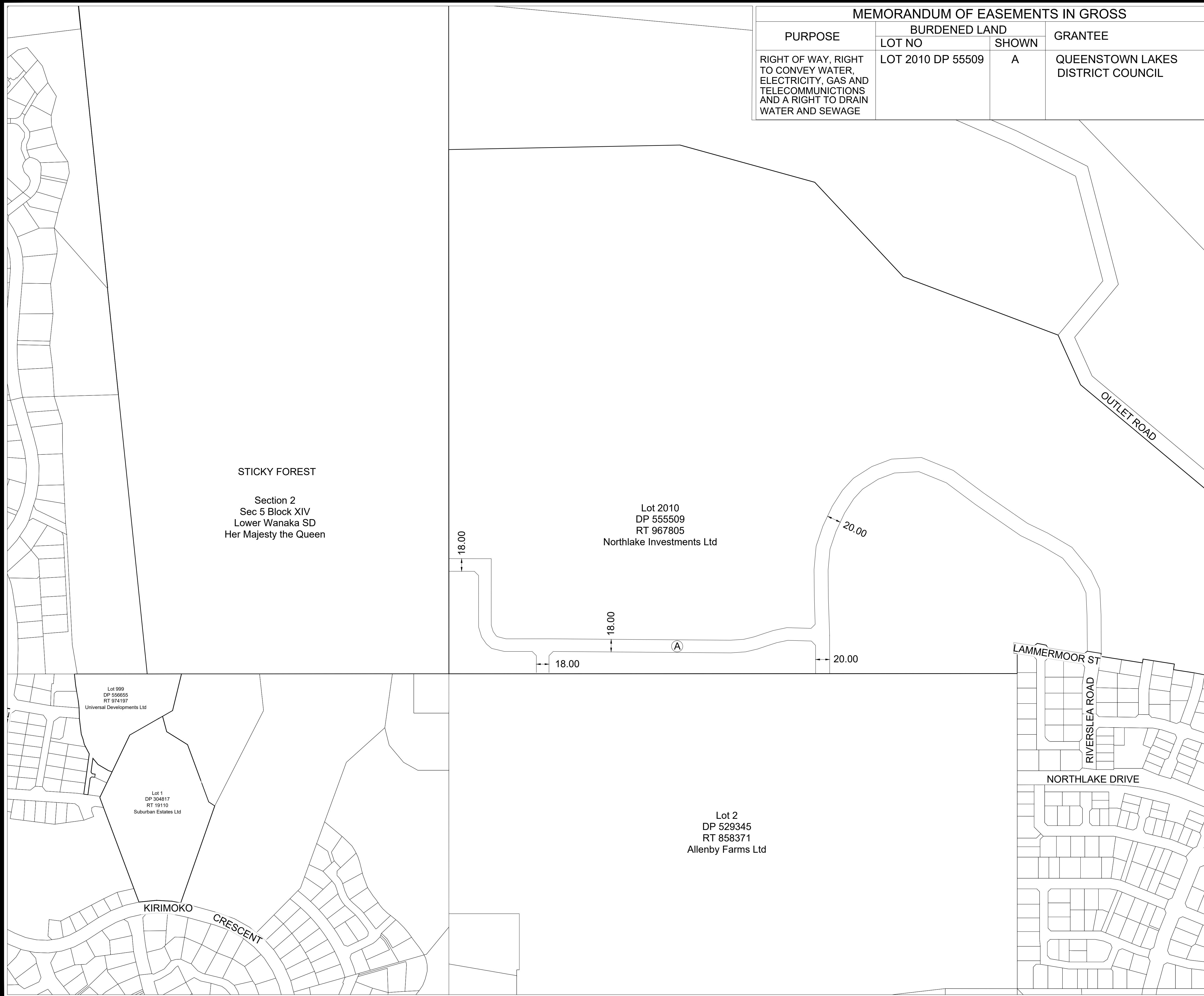
Design	CP
Drawn	CP
Date	04/21
QA check	CP

AutoCAD ref: Overall Map
 Sheet 1 of 3
 Drawing **S101**

Scale @ A3 1:8000
 Scale @ A1 1:4000
 Revision **A**

MEMORANDUM OF EASEMENTS IN GROSS

PURPOSE	BURDENED LAND		GRANTEE
	LOT NO	SHOWN	
RIGHT OF WAY, RIGHT TO CONVEY WATER, ELECTRICITY, GAS AND TELECOMMUNICATIONS AND A RIGHT TO DRAIN WATER AND SEWAGE	LOT 2010 DP 55509	A	QUEENSTOWN LAKES DISTRICT COUNCIL



STICKY FOREST
Section 2
Sec 5 Block XIV
Lower Wanaka SD
Her Majesty the Queen

Lot 2010
DP 55509
RT 967805
Northlake Investments Ltd

Lot 2
DP 529345
RT 858371
Allenby Farms Ltd

Lot 999
DP 556655
RT 974197
Universal Developments Ltd

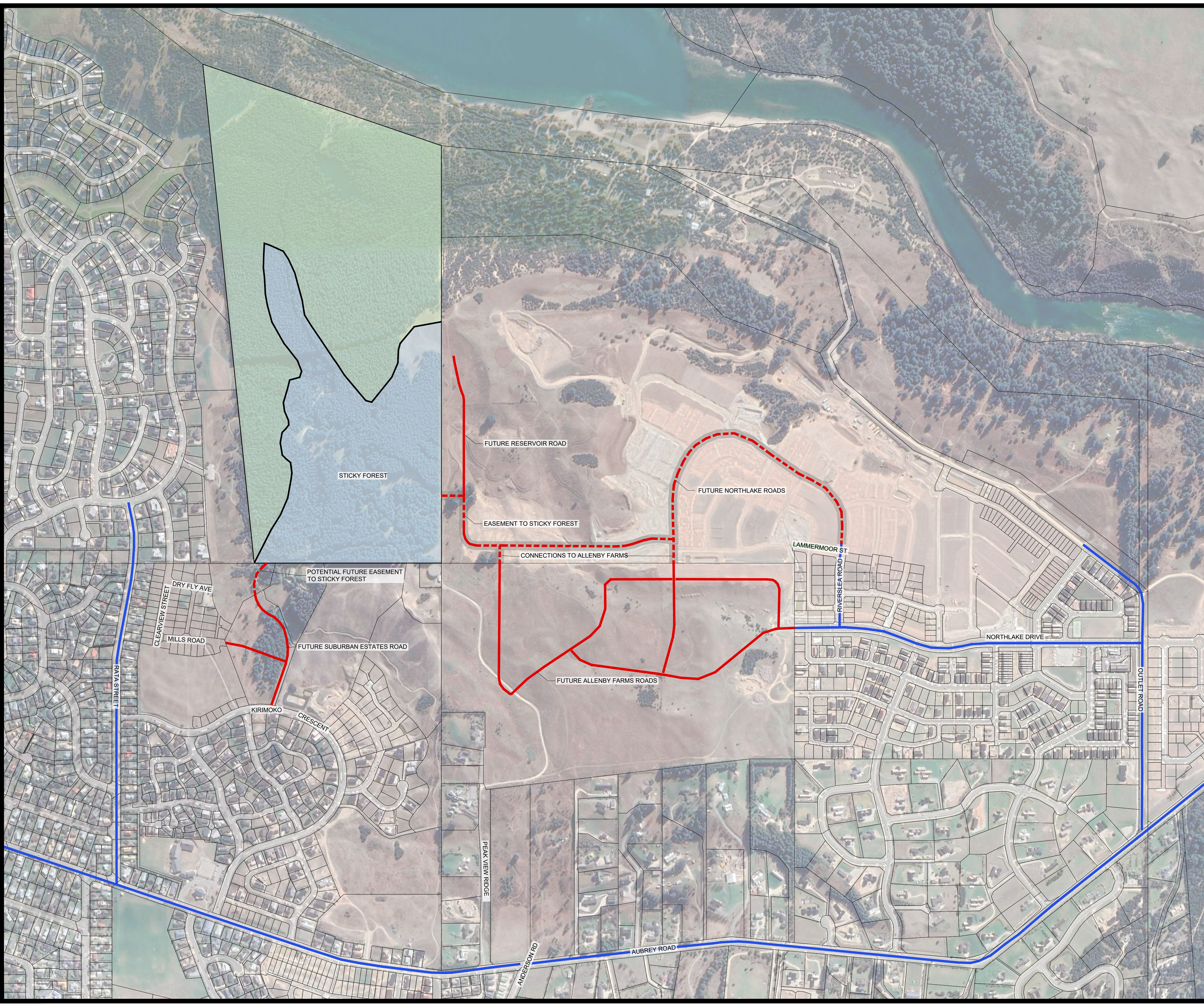
Lot 1
DP 304817
RT 19110
Suburban Estates Ltd

Job
STICKY FOREST, WANAKA

Title
PROPOSED EASEMENTS FOR ACCESS

Issue	Date	Reason	Approved
A	04/21	FOR DISCUSSION	CP

Origin of Levels BM
Level Datum
Projection - New Zealand Geodetic 2000
Circuit -
Design CP
Drawn CP
Date 04/21
QA check CP



Job
STICKY FOREST, WANAKA

Title
FUTURE ROADING NETWORK

Issue	Date	Reason	Approved
A	04/21	FOR DISCUSSION	CP
			approved

Origin of Levels BM
 Level Datum
 Projection - New Zealand Geodetic 2000
 Circuit -

Design	CP
Drawn	CP
Date	04/21
QA check	CP

**ATTACHMENT 3 – PROPOSED DISTRICT PLAN PROVISION REGARDING
ACCESS**

No subdivision shall take place within the Low Density or Large Lot Residential A Zones at Sticky Forest, Wanaka prior to the formation of a road developed in accordance with Rule 29.5.14 and located along the alignment shown in [easement instrument reference] or such other alignment or in such other location as shall provide commensurate vehicular access.

ATTACHMENT 4 – TRANSPORT ASSESSMENT

TP Consulting

Northbrook, Wanaka

**Retirement Village Resource
Consent**

Sticky Forest Road Access Memo

June 2021

Table of Contents

1.	Introduction.....	1
2.	Road Network.....	1
2.1	Existing Northlake Subdivision	1
2.2	Sticky Forest Access Easement	2
2.3	Future Road Network	6
3.	Sticky Forest Traffic	7
3.1	Traffic Generation Rates	7
3.2	Traffic Effects with Easement	9
4.	Future Traffic Distribution	12
5.	Conclusion	13

1. Introduction

Winton Property Ltd (WPL) is applying for a resource consent to develop a retirement village at Northbrook within the Northlake Special Zone in Wanaka. In the proposed conditions of consent the applicant has volunteered a condition intended to allow for legal road access for the land-locked Sticky Forest site that would be established as part of a future private plan change. The beneficiaries to the Sticky Forest land are proposing changes to the condition that would see a legal road access established by means of an easement across WPL/Northlake land as part of the current consent for the retirement village.

This report provides comment on the form of the legal road access preferred by the beneficiaries to the Sticky Forest land and assesses the effects of future traffic generated by Sticky Forest on the access route through Northlake to the wider road network.

This report also explains the future potential for other access routes to Sticky Forest that would produce a more resilient access configuration.

2. Road Network

2.1 Existing Northlake Subdivision

The following Figure 1 illustrates the existing road network within the Northlake Special Zone. It also shows the future areas of development in Northlake in blue and some of the future road network servicing that area.

The Northlake subdivision is served by a “main” road (Northlake Drive) shown as a blue line which forms the spine of the Northlake road network running to the west from a T-intersection with Outlet Road. Outlet Road is a main road providing the major connection to the adjacent arterial road Aubrey Road. Northlake Drive which has a dual carriageway currently terminates to the west at the boundary with the Allenby Farms land.

Near the western end of Northlake Drive there is a T-intersection with a main road called Riverslea Road which branches off to the north but currently only extends for a relatively short distance. Ultimately Riverslea Road will continue in a semi-circular fashion through the future stages of Northlake’s development and this future extension is proposed to be part of the easement providing for access to Sticky Forest.

Figure 1 also shows two other main roads linking through Stages 1-9 of Northlake to Aubrey Road. These roads are not expected to form a major part of the access to Sticky Forest. However some roads within the future subdivision of Allenby Farms, do have the potential to improve the access to Sticky Forest in the future.

More importantly there is the potential for an additional future access to Sticky Forest through land associated with the Clearview subdivision that is currently being developed and the Suburban Estates land on Kirimoko Crescent.

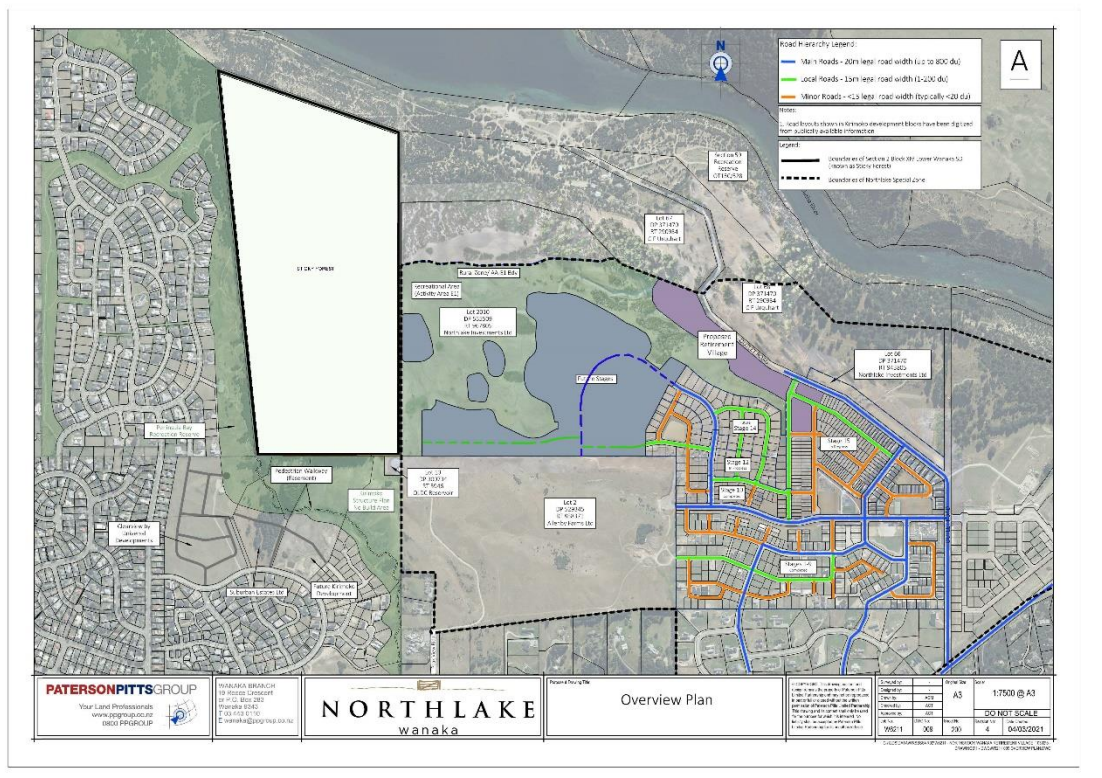


Figure 1: Northlake Road Network

2.2 Sticky Forest Access Easement

The following Figure 2 shows the easement proposed by the beneficiaries to the Sticky Forest land to provide a legal road access for Sticky Forest as part of a condition of consent for the WPL retirement village. The easement would mostly follow future roads within Northlake from the existing termination of Riverslea Road which is classified as a main road.

In the future Riverslea Road will loop around in a semi-circle and end up heading south at the boundary with Allenby Farms land. Just north of the boundary there will be a T-intersection and a road heading west towards the boundary with Sticky Forest. It is anticipated that the initial section of this road will provide access to future residential development lots. The road will then turn north and extend parallel with the Sticky Forest boundary to provide access to a reservoir being installed by Northlake near the northwest corner of its site.



Figure 2: Proposed Easement for Sticky Forest Access

It is proposed that the access easement should follow this route towards the reservoir and branch off the reservoir access road about 100m north of the bend in that road and extend to the west to the Sticky Forest boundary where it will link to the future road network within the Sticky Forest site.

As illustrated in Figure 3 below, it is recommended that the latter section of the easement should be 18m wide to allow for any other infrastructure facilities that might be required to share the easement with the proposed access road. Later design investigations might determine that the easement could be only 15m wide matching the standard for a “local” road because it will service no more than the 150 dwelling units proposed for Sticky Forest. As shown on Figure 1, the Council’s Code of Practice for Subdivisions indicates that 15m road reserves can service up to 200 dwelling units(du). It should not be necessary to provide a 20m wide “main” road as they are designed to accommodate up to 800 dwelling units.

Further there will be no need for kerbside parking along the carriageway in the section of the easement beyond the residential development proposed within Northlake. Therefore it is expected that the road could have a carriageway accommodating two-way traffic with a footpath on one side and potentially an off-road cycling path within an 18m road reserve if not a 15m width.

The road proposed to extend beyond the future urban area of Northlake to service the reservoir is likely to be constructed with a relatively narrow carriageway within a right-of-way that is less than 15m wide. It is proposed that the section of this road within the easement should have an 18m wide road reserve to allow for a wider carriageway and other

services. Again the easement for this section of the road extending beyond the residential development area might be able to be reduced to the 15m width used for a local road.

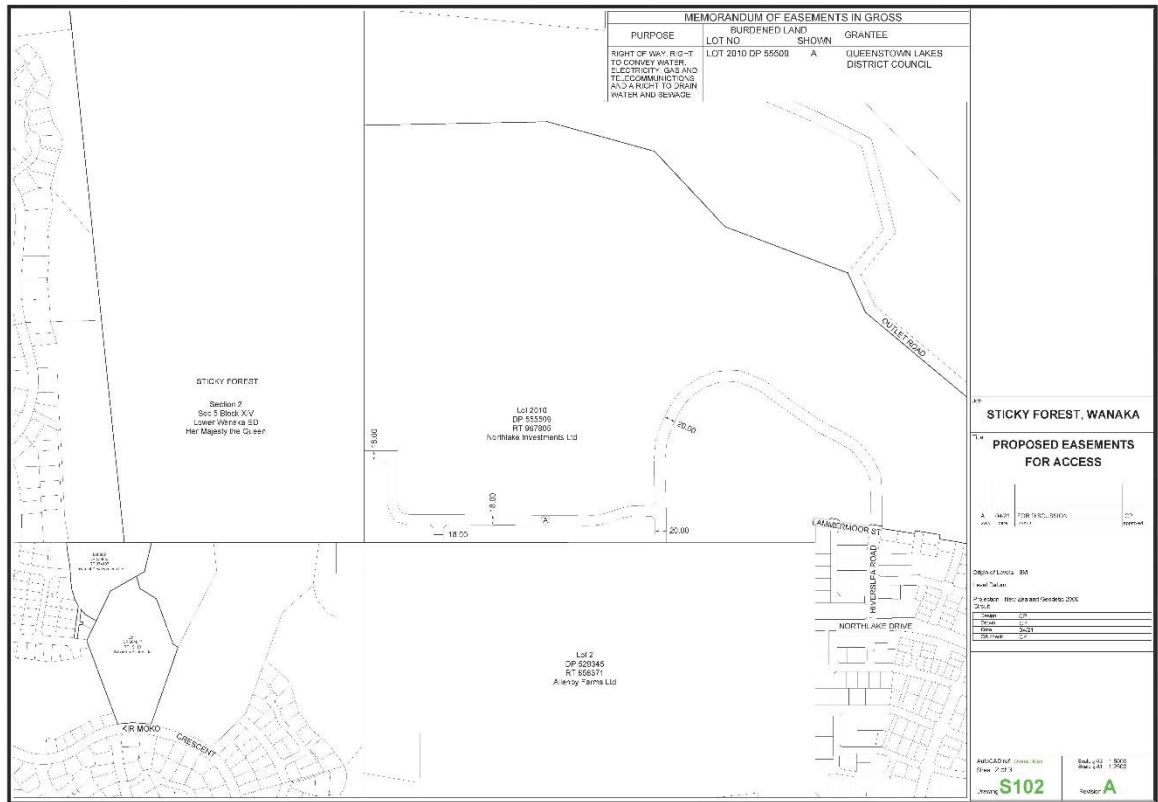


Figure 3: Proposed Easement for Sticky Forest Access

It is expected that the first section of the “reservoir access road” which will also service residential lot frontages, will have been planned to be a local road with a 15m legal road width because it was intended to service only about 50 dwelling units. With the additional loading of 150 dwelling units within Sticky Forest, the local road design standard should just be adequate to service the total of 200 dwelling units proposed. However it is proposed to increase the road width to 18m to provide a consistent easement through this section that matches the upstream standard.

If the potential future alternative access route for Sticky Forest via the proposed Allenby Farms subdivision were established before Sticky Forest could be developed, then it might remove the need for the wider reserve along the above section of road. To facilitate this potential future access route it is proposed that the easement across the Northlake/WPL land should have a stub end branch to the Allenby Farms boundary in the location where a connecting road is indicated on the Allenby Farms approved subdivision plan (see Figure 4 below).

The remaining sections of the easement are proposed to match the width of the road reserves intended for the Northlake subdivision(s). It is expected that the extension of Riverslea Road will continue as a main road with a 20m legal road width.



Figure 4: Allenby Farms Proposed Subdivision

Another stub end branch off the main easement is also shown in Figure 3 where Riverslea Road extends south to the Allenby Farms boundary beyond the Sticky Forest access route. This is proposed to accommodate another more direct link between the reservoir access road and Northlake Drive via future roads proposed in the Allenby Farms subdivision (see Figure 4).

Without this link there would be a possibility that traffic from Sticky Forest would instead of using the semi-circular section of Riverslea Road, use the more direct route via the proposed extension of Lammermoor St which will connect to Riverslea Road near its intersection with the reservoir access road.

Lammermoor Street is proposed to be a (green) local road which will service some 50 dwelling units. If the situation were to arise that full development of both Northlake and Sticky Forest occurred before Allenby Farms were subdivided, then Sticky Forest traffic and the traffic generated by dwellings adjacent to the initial section of the reservoir access road might use Lammermoor Street. With this traffic added to the traffic generated from the areas adjacent to Lammermoor Street, the traffic loading could relate to 250 dwelling units and the local road standard may not be adequate. It might then be necessary to install traffic calming devices along Lammermoor Street to discourage traffic from short-cutting along that route and encourage the use of Riverslea Road.

Riverslea Road and Northlake Drive both have more than enough capacity as main roads to accommodate the traffic generated by their catchments even if Sticky Forest is added,

because there are less than 800 dwelling units in those catchments. Similarly Outlet Road would still serve fewer than 800 dwellings and as a main road has more than enough capacity.

2.3 Future Road Network

Figure 5 illustrates important elements of the future road network in the vicinity of Sticky Forest involving further subdivision of Northlake, subdivision of Allenby Farms and the completion of the Clearview subdivision which is currently being developed. It also shows possible future roads on the Suburban Estates land in Kirimoko Crescent.

As well as the alternative links to Northlake Drive through the Allenby Farms subdivision roads referred to above, ultimately Sticky Forest will have the potential to have an additional access route via Clearview/Suburban Estates land as illustrated in Figure 5.

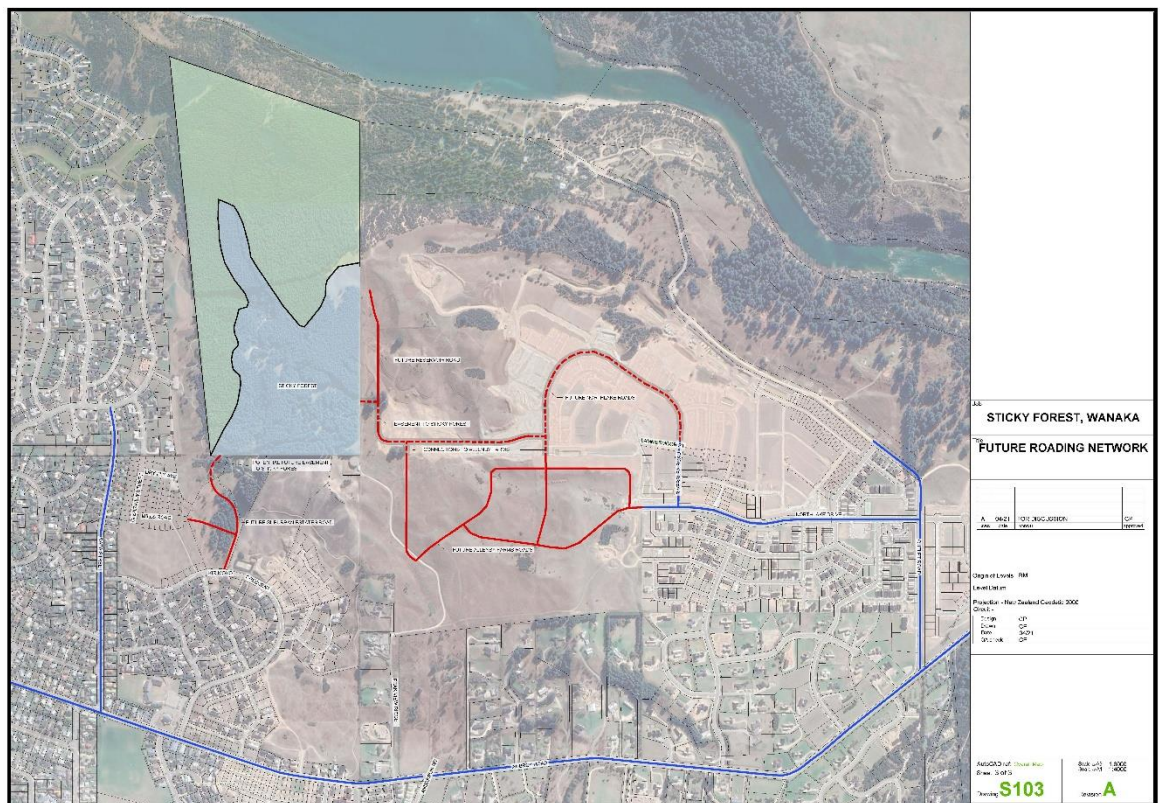


Figure 5: Potential Future Access Routes for Sticky Forest

This additional access could be provided at the southeast corner of the Sticky Forest site where the beneficiaries to the Sticky Forest land have an arrangement with Suburban Estates which owns land on Kirimoko Crescent extending close to the boundary of Sticky Forest. However to complete the access requires the approval of an easement to facilitate the construction of a short section of road on the property of the owners of the Clearview subdivision. The rest of the access can be provided by Suburban Estates through its land to Kirimoko Crescent or alternatively via the roads in the Clearview subdivision as one of these roads (Mills Road) has been constructed to provide a link to the Suburban Estates property boundary as indicated in Figure 5.

With the proposed easement across Northlake/WPL land a definite legal road access route to Sticky Forest can be provided through the Northlake subdivision but the other access routes are not guaranteed to be provided at this stage. These other access routes are not seen as being essential to enable the rezoning and subdivision of Sticky Forest. They are rather regarded as producing a more resilient road network through providing alternative access routes for events such as accidents or maintenance which might involve road blockages.

3. Sticky Forest Traffic

3.1 Traffic Generation Rates

Using the QLDC Code of Practice for Subdivision traffic generation rate of 8 vehicle movements per day per dwelling unit, a 150 lot subdivision would result in a daily traffic generation of 1200 vehicle movements two-way. However this generation rate which is used for most residential areas elsewhere, is conservatively high for Wanaka and Sticky Forest for the following reasons.

In Wanaka and similar holiday destinations the census data shows that dwellings in peripheral urban areas were less than 70% occupied on the night of the census in 2018. The census data for the area around Sticky Forest (North Wanaka) indicates that only 65% of these occupants were in full time employment and that some 20% of those employed worked from home while about 15% walked or rode a bicycle to work.

Also when people are using holiday homes they tend not to travel so often during peak commuter periods. Accordingly the actual traffic generation rate for dwellings in Wanaka is much lower than rates associated with dwellings in standard urban areas without the same number of holiday homes and with fewer retired people, particularly in peak commuter periods.

A daily traffic generation rate of 8 vehicle movements per dwelling might even be high for occupied dwellings in Sticky Forest because people living in areas relatively remote from service facilities, workplaces, recreation activities, etc. tend to plan their trips more carefully linking different activities in the course of a single trip to avoid the relatively long extra trips.

In any event the average generation rate per dwelling drops when larger groups of houses are assessed together as in the case of Sticky Forest. This is because trips considered as being generated by separate individual dwellings in an area can actually be part of a single linked trip as far as the overall area is concerned. For example when a delivery or service vehicle visits more than one house in the area. This is counted as two generated trips (arrival and departure) for each dwelling but for the overall area it is only two trips and so the generation rate per dwelling is less. Another example of linked or shared trips would be a person living in Sticky Forest picking up another person living nearby to travel into the centre of Wanaka. These vehicle movements would be considered to be part of the Code's 8 trips per dwelling per day for both dwellings (one departure movement for the initial dwelling and an arrival and a departure movement for the second dwelling) but in terms of the effect on the wider road network they are involved in only one trip.

These effects are clearly demonstrated in transportation network models which are based on areas or zones where generation rates are applied to dwellings in the zones (and

jobs). These models are calibrated to replicate existing traffic counts observed on the road network between zones and to achieve a suitable match the residential dwelling generation rates need to be lower than 8 vehicle movements per day (usually less than 6) depending on the size of the zones. This reduction in individual dwelling generation rates reflects linked trips such as with delivery vehicles noted above or when a car driver picks up another person at a nearby house as part of a shared trip.

The 150 dwellings in Sticky Forest are only part of a wider “catchment zone” when considering the most important traffic effects of the proposed easement access which is at the Outlet Road/Aubrey Road intersection. It is necessary to also consider most of the traffic generated in Northlake north of Northlake Drive as this is included in the traffic catchment zone for the intersection. The reduced traffic generation rate applied to the dwellings in this wider zone also reflects intra-zonal trips where for example a person from Sticky Forest makes a single purpose vehicular trip to a commercial facility in Northlake. This is part of the individual traffic generation for that dwelling but it does not involve a trip beyond the catchment zone. Therefore the average generation rate per dwelling applied to the overall catchment analysis is again reduced.

This reduction in the effective traffic generation rate for larger areas is also supported by the following assessments. A traffic count taken on Beacon Point Road south of Roto Place in 2012 indicated a two-way daily traffic volume of some 1,400 vehicles. Based on Google Earth aerial photographs taken in 2012, the number of dwellings in the Beacon Point Road catchment area at that time was about 250. This equates to a traffic generation rate of about 5.5 vehicle movements per day per dwelling for that area.

Similarly Peninsula Road which provides the only access to Kelvin Heights in Queenstown, was assessed in 2010 to have a two-way daily traffic volume of about 3,000 vehicle movements when there were some 560 dwellings in Kelvin Heights. This again relates to a traffic generation rate of some 5.5 movements per day per dwelling which is well below the general traffic generation rate adopted by the Council.

The traffic generation assessments discussed above indicate that a lower traffic generation rate of say 6 trips per dwelling per day should be adopted for assessments of the traffic effects on the wider road network potentially caused by the intended residential development of Sticky Forest.

Even lower rates might occur outside peak holiday seasons which cover only about 3 months of the year as illustrated by the following 2015 traffic data from NZTA which records two-way monthly traffic counts on SH6 in Wanaka. This is presented in the following Figure 6 which shows that January is the busiest month of the year and that only December and February are close to matching that peak level of traffic activity.

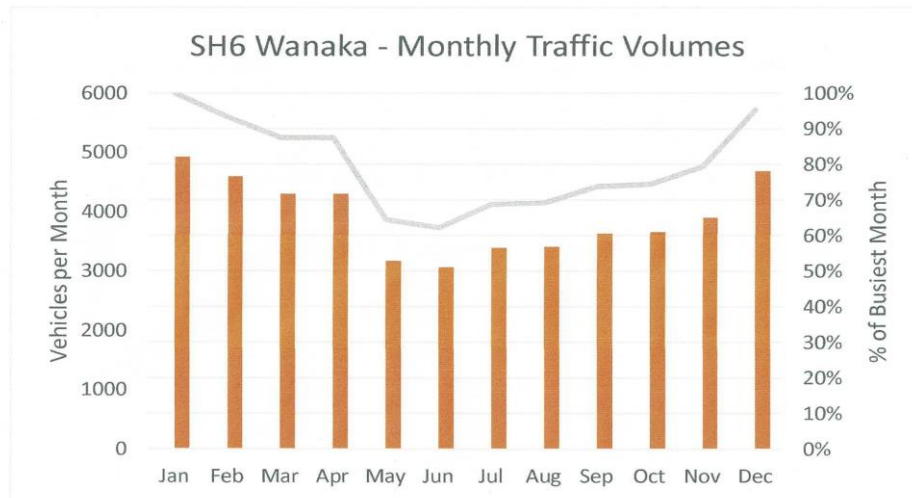


Figure 6: Monthly Traffic Counts Showing Seasonal Variation

3.2 Traffic Effects with Easement

With the proposed access easement it is intended that (in the absence of any additional future access routes) all traffic generated by the development of Sticky Forest that travels beyond the local area will join the wider road network at the Outlet Road/Aubrey Road intersection. As indicated in the traffic report produced for the WPL retirement village consent application, the intersection of Outlet Road and Aubrey Road is the “most likely to be affected by any change in traffic flow”. It is a T intersection with left and right turning lanes on Aubrey Road and a stop sign controlling the Outlet Road approach.

Based on the more appropriate traffic generation rate of 6 vehicle movements per dwelling per day, it is predicted that no more than 900 vehicle movements per day associated with the development of Sticky Forest would use the proposed access easement through Northlake to reach the Outlet Road/Aubrey Road intersection. Based on a 10% peak hour ratio, the above prediction would involve some 90 two-way movements in the morning and evening peak hours which would relate to a peak hour traffic generation rate of 0.6 vehicle movements per dwelling.

The traffic report produced for the WPL consent application estimates that traffic volumes at the intersection when Northlake is fully developed (without the retirement village) will involve some 240 two way vehicle movements entering and exiting Outlet Road in peak hours. The intersection performance analysis indicates that with this level of traffic the various turning movements would experience average delays of 10.5 seconds per vehicle or less. The right turn out of Outlet Road would have the 10.5 second delay which is rated a level of service (LOS) B whereas all other movements would experience LOS A.

It is noted that these forecasts are based on a traffic generation rate of 0.9 vehicle movements per hour per dwelling being applied to the Northlake catchment area. If the

lower generation rate of 0.6 vehicle movements per hour is applied for similar reasons to those outlined above, then the Northlake traffic predicted to use Outlet Road would be reduced to 160 vehicle movements per hour.

If the 90 vehicle movements generated by Sticky Forest are added, the traffic movements using Outlet Road would increase to 250 in the peak hours. In other words the future two-way turning movements at the intersection including those associated with Sticky Forest, are likely to be only 10 per hour more than previously forecast for Northlake alone. Further the retirement village traffic effects analysis shows that the intersection can efficiently accommodate 250 turning movements in the peak hours when the net increase of 10 extra two-way vehicle movements associated with the retirement village is added.

That analysis also indicates that the addition of 10 vehicle movements in the peak hours would not result in any change in level of service. The most significant turning movement is the right turn out of Outlet Road which is expected to experience a delay of some 10 seconds per vehicle in both peak periods. The 10 extra vehicle movements due to the retirement village adds a delay of only 0.1 seconds per vehicle and does not change the LOS B predicted for this right turn. All other turning movements are predicted experience less than 0.1 seconds per vehicle increases in delay and remain at LOS A.

With the revised assessment based on the lower peak hour generation rate for residential dwellings (0.6) and including Sticky Forest traffic, the turning movements into and out of Outlet Road would increase from 250 to 260 vehicles in the peak hours when the net effect of the retirement village is added. Given the very low increase in delay associated with the two-way traffic movements increasing from 240 to 250 under the original retirement village traffic effects assessment, there would be a similarly low increase in delay with the revised traffic volume increasing from 250 to 260 vehicles per hour. Again it is expected that the intersection would operate efficiently at this traffic volume with all turning movements experiencing LOS B or better.

Other roads and intersections within Northlake will not have the same concentration of traffic and are not expected to be adversely affected by Sticky Forest traffic as indicated by the assessment of the number of dwellings serviced by the respective road types that was covered previously. The intersection of Northlake Drive and Outlet Road is the only other intersection where traffic turning movements will be concentrated but it is not expected to be adversely affected by the Sticky Forest traffic because with the revised traffic generation rates, it will accommodate traffic volumes that are only slightly higher than was previously predicted. In that regard it is noted that it was not considered necessary to include any analysis of this intersection in the retirement village traffic assessment report.

A further assessment has been undertaken for the Sticky Forest access easement to allow for the possibility that the Northlake analysis of the Outlet Road/Aubrey Road intersection performance does not include traffic associated with Allenby Farms. Without a link to Peak View Ridge for motor vehicles all traffic generated by the proposed Allenby Farms subdivision would need to use the Northlake roads for access. This is expected to involve the traffic generation of 304 residential lots or 204 vehicle movements in the morning and evening peak hours.

These movements have been added to the Northlake road network assuming all the generated traffic travelling beyond the local area will use Outlet Road. This is a worst case scenario because there is the potential that some of the Allenby Farms traffic will not use

Outlet Road. With the majority of the Allenby Farms traffic wishing to travel west along Aubrey Road and with a local road connection from the proposed Allenby Farms subdivision (see Figures 1 & 4) to the roads in Northlake south of Northlake Drive, it is possible that these roads will be used as a separate connection to Aubrey Road,

In any event the additional traffic does not significantly alter the performance of the Outlet Road/Aubrey Road intersection as indicated by the results from a SIDRA analysis contained in the following tables for the morning (AM) and evening (PM) peak scenarios. As with previous analyses, all traffic movements are expected to operate at LOS B or better. There would be only a marginal increase in the delay from 10 seconds to 11 seconds per vehicle for the most significant movement, the right turn out of Outlet Road.

AM Peak Hour

Approach	Movement	Volume (vph)	Delay (sec)	Level of Service
Aubrey East	T	116	0	LOS A
	R	21	5.8	LOS A
Outlet	L	43	8.0	LOS A
	R	303	11.3	LOS B
Aubrey West	L	136	5.7	LOS A
	T	88	0	LOS A

PM Peak Hour

Approach	Movement	Volume (vph)	Delay (sec)	Level of Service
Aubrey East	T	86	0	LOS A
	R	37	6.0	LOS A
Outlet	L	25	8.1	LOS A
	R	154	11.2	LOS B
Aubrey West	L	287	5.7	LOS A
	T	129	0	LOS A

Given that the Sticky Forest traffic is not expected to critically affect delays at intersections along the access route through Northlake and assuming that future intersections will be constructed to appropriate design standards, there are not expected to be any significant adverse effects on road safety as a result of the access easement being implemented and the development of Sticky Forest being facilitated.

Therefore, the single access to Sticky Forest proposed through the easement established by the revised condition to the retirement village consent would provide a legal access that would not adversely affect the efficiency or safety of the road network associated with

Northlake. This was the only traffic concern expressed about the Sticky Forest submission to the PDP. There were no concerns regarding the effects of the relatively small extra residential development (150 dwellings) on the wider road network (or on the additional access routes considered as part of the submission).

4. Future Traffic Distribution

It is ultimately intended that Sticky Forest should have two separate access roads into the site. The first access will be at the eastern boundary with Northlake and as proposed through the access easement. In the future this access would continue to provide a connection via Northlake Drive to activities within Northlake and to the east via Outlet Road and Aubrey Road. It could also involve links through the future Allenby Farms subdivision as illustrated in Figure 5.

The second access would be via an easement over land associated with the Clearview subdivision and roads to be constructed by Suburban Estates off Kirimoko Crescent as indicated in Figure 5. There would also be the option for the roads within the Clearview subdivision to be used as links to this access.

Sticky Forest traffic with origins and destinations to the west and south would be expected to use the second access. This would not involve all 90 vehicle movements generated by Sticky Forest in the peak hours because trips with origins and destinations to the east will continue to use the Northlake Drive access route. So with this splitting of traffic between the two accesses it is not expected that there would be any significant adverse effects on roads within the Clearview and Suburban Estates subdivisions and there would clearly be a lesser effect on Northlake's roads than if all of the Sticky Forest traffic used the single easement access route.

Of course access for Sticky Forest and the overall road network including Northlake and Allenby Farms would be even more efficient, resilient and safe if the Peak View Ridge link between Allenby Farms and Aubrey Road were constructed as a road as originally planned. However it is noted that currently the approved subdivision plan for Allenby Farms only includes a walkway and cycleway connection to Peak View Ridge as indicated in Figure 4.

Therefore the only access that can be guaranteed in the interim is via the road which would be constructed through the easement that is proposed through the condition associated with the WPL consent. Potentially if Sticky Forest were fully developed before access could be provided via Clearview, then all of the generated traffic would use the route via Northlake Drive and Outlet Road to Aubrey Road. As indicated by the above assessment of the local and main roads capacity to service prescribed numbers of dwelling units and the traffic assessment produced for the intersection of Outlet Road and Aubrey Road, this preferably interim situation is not expected to result in significant adverse traffic effects.

As noted above, having a single road access to Sticky Forest would not be regarded as unacceptable just less desirable than having two and the network resilience that provides. It is not uncommon for residential suburbs to have a single access which is often imposed because of geographical constraints. A good example is Kelvin Heights in Queenstown which has Peninsula Road as its only access. Kelvin Heights has a lot more dwellings than the 150 expected to be developed at Sticky Forest. It has already been demonstrated above that having only one vehicular access route to Sticky Forest would not create any traffic capacity

issues on the access roads through the Northlake subdivision or any inherent road safety issues.

5. Conclusion

It has been concluded that a new subdivision at Sticky Forest in Wanaka would have a lower traffic generation rate for the residential dwellings than that recommended by the Council Code because of the expected numbers of unoccupied holiday homes, retired residents and employed residents working from home. Further the travel patterns of residents on holiday do not necessarily coincide with traditional commuter traffic peak periods so their peak hour generation rates tend to be lower.

Another significant factor is that external traffic generation rates depend on the size of the area of development being investigated because of the increased number of linked trips and intrazonal trips that occur within larger areas. With traffic generated by Sticky Forest using only the proposed access easement through Northlake, the major potential for adverse traffic effects will be at the Aubrey Road/Outlet Road intersection. The traffic catchment for this intersection includes the northern section of Northlake and Allenby Farms as well as Sticky Forest. With this relatively large catchment area and the other factors referenced above, the traffic generation rate for trips travelling beyond the Outlet Road/Aubrey Road intersection is expected to be only about 6 vehicle movements per dwelling per day.

With this lower forecast of traffic generation, the traffic associated with the 150 potential dwellings that could be developed on the Sticky Forest site will be able to be efficiently and safely accommodated solely by the proposed access easement without significant adverse effects on the efficiency or safety of the Outlet Road/Aubrey Road intersection or the road network associated with Northlake.

Even if a higher traffic generation rate were to occur, it is still expected that the single access route to Sticky Forest proposed through the easement established by the revised condition to the retirement village consent would provide a legal access that would not adversely affect the efficiency or safety of the road network associated with Northlake.

With the potential for the future access for Sticky Forest to be split over two access routes, it is expected that access would be more efficient, safe and resilient without adversely affecting the wider road network. In particular, there would be an even lesser effect on the Aubrey Road/Outlet Road intersection and the rest of the Northlake road network, particularly if the access via Clearview were established before Sticky Forest was fully developed.