

THE RESOURCE MANAGEMENT ACT 1991

<b>LOCAL AUTHORITY:</b>	<b>SELWYN DISTRICT COUNCIL</b>
<b>SUBJECT MATTER:</b>	<b>Variation 27 to the proposed Selwyn District Plan (Townships &amp; Rural Sections)</b>
<b>HEARING DATES:</b>	<b>16<sup>th</sup> and 17<sup>th</sup> July 2007</b>

**Appearances:**

- Warwick Bethwaite and John Goddard for the **Canterbury Gliding Club**
- **Janice and Kelvyn Buckingham** and **Kathryn and Brendan Doherty**
- **Robert Wilson**
- **Margaret Eade**
- **Vanessa Murray**
- **Vicki Oliver**
- **Jennifer Studholme**
- Rose Paterson for **Jennifer Studholme**
- Henry Studholme for the **Hororata Concerned Citizens Society Incorporated**
- Tom Evatt for **Janet and Stephen Harris**
- **Janet and Stephen Harris**

RECOMMENDATION OF THE HEARING COMMISSIONER

**Introduction**

The Proposed Selwyn District Plan was notified in two sections – the Townships Section (Volume 1) on the 2<sup>nd</sup> of December 2000 and the Rural Section (Volume 2) on the 8<sup>th</sup> of September 2001. Variation 27 relates to both sections, but principally to the Rural Section, and specifically to provisions imposing height restrictions on properties surrounding the Hororata Domain.

The height restrictions directly relate to the use of the Domain as an airfield for recreational gliding by the Canterbury Gliding Club. That club and its predecessors have used the Domain for that activity to varying degrees since 1969. The Canterbury Gliding Club presently leases 18.6 hectares of Reserve 2217 for the purposes of a public gliding field, hanger and pavilion. That lease was entered into in 1981 and expires in January 2011.

Based on the use by the Gliding Club in 2001, the Selwyn District Council included height restrictions over land surrounding the Domain within the Proposed District Plan in relation to trees and buildings, including utility buildings and structures.

The height restrictions were subject to various submissions, subsequently heard by the District Plan Hearings Panel. The Panel concluded that height restrictions were justified in respect of maintaining safety, but that several aspects of the provisions could not be justified in the notified form. Furthermore, the Panel considered that necessary amendments could not all be made either within the scope offered by the submissions received or as minor corrections.

Accordingly, the Panels recommendations to the Council were to initiate a Variation to the Proposed Plan (relevantly) to:

1. *Provide for the revised height restrictions based on a gradient of 1 in 20 for the aircraft approach paths.*
2. *Provide for the alignment of the lines marking the height limits to be at right angles to the centre lines of the runways.*

Variation 27 was promulgated in response to those recommendations. Council adopted other recommendations of the Hearings Panel in October 2004<sup>1</sup>.

In the course of preparing the Variation it was identified that the rules relating to tree height prevented the planting of trees that could grow beyond the height restrictions. That was considered unnecessarily onerous and Variation 27 amended those rules so that instead any new tree(s) planted is to be maintained at a height in compliance with the height restrictions.

The changes to the notified Plan's height provisions as a result of Variation 27 can be summarised as follows:

- Amending the Rural Volume, Policy 16 of Part 2, Section 2.1 – 'Transport Networks – Road, Rail and Airfields' to be consistent with the comparable policy in the Townships Volume to focus on *avoiding adverse effect on the safety of aircraft approaches to Hororata Domain*, rather than simply *maintaining height restrictions*.
- Substituting reference to Civil Aviation Authority "regulations" for "guidelines" in explaining Policy 16 above.
- Substituting reference to "Hororata Airfield" for "Hororata Domain".
- Amending Rural Volume, Part 3, Appendix 19 to accurately reflect Civil Aviation Authority (CAA) guidance applicable to the Hororata airfield in respect of defining the aircraft take-off and approach paths for the runways.

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<sup>1</sup> The only appeal lodged in respect of Council's decision on those particular submissions was withdrawn at the time of notification of Variation 27 and therefore, on any related matter, the Plan as amended by that decision is now beyond the point of further challenge.

- Deletion of the general height limits applying from all boundaries of the airfield within Hororata Domain.
- Removal of reference to “transitional surfaces” applying to the edge of the runways and approach/take-off climb surfaces in describing how the take-off and approach paths are determined for the purpose of interpreting the height restriction rules.
- Amending the rules relating to trees so as to not prevent them being planted if on maturity they would encroach into the height restrictions, and instead require any trees to be maintained so as to avoid that outcome.

Variation 27 attracted a number of submissions, many in a similar vein to those made to the originally notified Proposed Plan provisions. Twelve parties presented to the hearing in support of submissions and as the Commissioner appointed to hear those, I record my consideration of the relevant matters raised and my recommendations to the Council in respect of individual submissions and the Variation itself.

### **Background and scope**

It was evident during the hearing (and before) that the issue of gliding activity on the Domain, the consequent restrictions imposed through the District Plan and associated effects on surrounding properties, are matters of long-running concern to some local landowners. That was reflected in submissions made on the Proposed Plan as first notified and on this Variation, as well as in declarations that have been sought of the Environment Court, which have included examination of the lawfulness of the gliding activity occurring on the designated reserve<sup>2</sup>.

In considering the Variation and associated submissions I’m bound both by the scope of that Variation insofar as it seeks to alter the District Plan (as now amended by Council decisions), and within those parameters, the extent of submissions **on** the Variation.

I discuss the matter of scope in more detail later, but in determining that scope, Variation 27 is quite specific in terms of the alterations it makes to the Proposed Plan. They are largely intended to be corrective of existing provisions and are focused on the rules relating to restricting the heights of buildings, other structures and trees in areas influencing the safe operation of gliding activity utilising Hororata Domain (principally for aircraft take-off and landing). Amendments to other provisions of the Proposed Plan are incidental to that in order to achieve clarity and consistency throughout the document<sup>3</sup>, and to diagrammatically represent the application of the rule restrictions<sup>4</sup>.

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<sup>2</sup> Refer Environment Court Declaration Decision No. C185/2004 (Hororata Concerned Citizens and Canterbury Gliding Club Incorporated).

<sup>3</sup> Part 2, Section 2.1, Policy 16 explanation and reasons in the Townships Volume, and Part 2, Section 2.1, Policy 16 of the Rural Volume.

<sup>4</sup> Part 3, Appendix 19, including accompanying explanatory notes.

The effect of Variation 27 is to reduce the degree of restriction over land beyond the Domain relative to the provisions of the Proposed Plan (as notified).

The report on the Variation and associated submissions for the hearing was prepared and presented by Mr Boyes, an independent planning consultant appointed by the Council. Two matters are raised in submissions and are described by Mr Boyes in his report as not being directly relevant to the Variation. They are the matters of flight frequency under the terms and conditions of the Gliding Clubs lease, and more generally the expiry of that lease. I'll briefly touch on those before progressing further as I'm essentially in agreement with Mr Boyes.

The current Gliding Club lease includes conditions on the frequency of flights and on that basis, the Council in its considerations preceding the Variation being notified determined it unnecessary to include comparable conditions within the District Plan. Various submitters however question whether those conditions are presently being met and whether the Council is actually enforcing the terms of the lease. Like Mr Boyes, I consider that a matter to be determined between the Council and the Gliding Club, and any lease compliance issues are independent of this Variation which is more narrowly concerned with associated height limits. On reading the submissions, no submitter has actually requested that a limit be placed on the frequency of gliding activity through the District Plan.

As to broader lease related matters, some submitters have questioned whether it is necessary to impose height restrictions given the impending expiry of the current lease in January 2011, or alternatively have asked that any such restrictions should be temporary and apply only up until the lease expires. Others have sought the Variation be withdrawn, even if only until the future of the lease is more certain. I'll later move on to discuss the necessity to impose height limits in more detail, but three points are of relevance in response to these matters.

The first is that the prospect of any extended or renewed lease beyond 2011 is unknown at this stage and speculation as to that outcome should not in my view influence consideration of the Variation. My preference is to address what is known at this point in time in terms of setting the appropriate plan provisions, and if circumstances were to change in the future, reassess as and when that might be necessary. Gliding activity currently occurs and, on the evidence I received, is likely to continue to occur through the Gliding Club's activities for at least several more years.

Secondly, the Court has determined that gliding activity is in accordance with the designated recreation purpose for the reserve, and conceivably therefore could be undertaken from the land at any time by members of the Canterbury Gliding Club or anyone else. That possibility exists irrespective of the gliding clubs lease arrangements. However, whilst accepting that is the case, if gliding or other aircraft activity could not be conducted from the land for any reason, there would seemingly be no justification for the associated height limits to be imposed and if that situation arose they could be removed from the Plan.

Lastly, even withdrawing the Variation would not remove the height restrictions, as the Plan would revert to those more restrictive height provisions applying at the time of original public notification. Those submitters seeking the complete withdrawal of the Variation, if granted that relief, would be left with the situation of the greater restrictions applying in the form that they were originally proposed in the Plan, even though that may very well not have been their intention.

Insofar as some submissions seek to influence lease compliance matters through the District Plan or have the height limit provisions linked to either the term of the current or any future lease, I do not recommend they be accepted.

## Issues

In the course of the hearing, a quite fundamental issue arose regarding the extent to which obstacles might presently encroach into the take-off climb and approach surfaces for aircraft utilising the Domain airfield.

Evidence was presented by Vicki & Douglas Oliver identifying several areas under the approach/take-off paths that contain trees already at heights extending above the associated height restrictions specified under the Variation. This evidence was supported by a survey undertaken for them by a senior forestry advisor, Mr Barry Mathers. This evidence did not relate to all areas under the take-off climb and approach surfaces but nevertheless was still seemingly at odds with the Part 157 Aeronautical Study<sup>5</sup> findings undertaken by the Civil Aviation Authority (CAA) at the Gliding Clubs request in 2006. That study found that the then proposed increase in utilisation of the Hororata airfield by the Canterbury Gliding Club “*would not adversely affect the safe and efficient use of airspace, nor the safety of property or persons on the ground*”<sup>6</sup>. Accordingly an ‘unobjectionable determination’ was issued by the CAA in respect of the Club’s Notice of Proposal in February 2007. A specific consideration of that determination was the effects of objects in the vicinity of the airfield that would create undue hazard to gliding operations.

On the evidence I received, including that by Mr Goddard for the Gliding Club, it is my understanding that the take-off climb and approach surfaces should remain completely clear of obstructions for the life of the airfield in satisfying CAA requirements (consistent with published advisory circular AC139-7A<sup>7</sup>). I therefore sought further evidence to be provided on the heights and location of any obstacles that protrude through the relevant height limits for all land beneath the approach/take-off climb surfaces for the four runways. It was apparent that such information could not readily be provided by participants in the hearing and would require

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<sup>5</sup> Reference is to Civil Aviation Rule Part 157.

<sup>6</sup> CAA Aerodrome Determination – Aerodrome Proposal, Hororata – signed by Mark Hingston, Manager Aeronautical Services, dated 7<sup>th</sup> February 2007.

<sup>7</sup> CAA Advisory Circular 139-07A – Aerodrome Design – Aeroplanes at or below 5700kg Maximum Certified Take-off Weight (MCTOW).

surveying expertise and possibly entry onto private land. I requested that this survey be based on a conservative assessment of the available runway areas within the land leased by the Gliding Club, and I was particularly interested in understanding the implications of these obstacles for gliding activity to be able to be conducted fully in accordance with CAA requirements.

Duffill Watts Consulting Group were commissioned by the Council to undertake that survey and documented their findings in a report that was then circulated to all submitters for comment relative to their submissions. At the same time I also sought a legal opinion as to how the matter of any applicable existing use rights<sup>8</sup> might apply to any such obstacles (trees in particular) under various circumstances. That opinion, prepared by Buddle Findlay Solicitors, was also circulated to submitters.

The Duffill Watts report identified that several trees and hedges do protrude through the approach/take-off climb surfaces for three of the four runways, based on those runway areas being defined by available land and avoiding established permanent structures in the vicinity (fence lines, power poles, buildings, etc)<sup>9</sup>. The report acknowledges that in defining the extent of runway strip required, much is dependent on the nature and size of aircraft using the Domain, and that level of detail was not available to them in preparing the report. Accordingly, the runways and approach and take-off climb surfaces defined in the report are acknowledged to potentially be wider, and the runway strips potentially longer, than might actually be required for the Clubs activities.

I also acknowledge that those conservatively defined runways extend beyond the areas as defined by the displaced thresholds under the provisions of both the Proposed Plan and Variation 27<sup>10</sup>. This was a point made in responses to the report by submitters. The Proposed Plan references the take-off climb and approach surfaces for each runway relative and parallel to the property boundaries of the Domain, displacing those surfaces to start at a point (threshold) 220m back from the respective reserve boundary at the end of each runway. The Proposed Plan clarified that the effect of this displacement was to allow a maximum height of 8m at a distance of 20m outside of the Domain boundary beyond the end of each runway. This was intended to ensure safe avoidance of nearby obstructions, power poles, fences and the like.

Variation 27 modified this approach slightly to align the take-off climb and approach surface thresholds so as to be drawn perpendicular to the runway centre line, climbing at the modified gradient of 1:20 and displaced each threshold to be 220m from the runway ends. The varied provisions describe that change as increasing the height limit to be 12m at the same 20m

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<sup>8</sup> Under section 10 of the Resource Management Act (RMA) land may be used in a manner that contravenes a rule in a District Plan or Proposed Plan providing the use was lawfully established and the effects of the use remain either the same or of a similar character, intensity and scale. This is commonly referred to as existing use rights.

<sup>9</sup> A number of these structures were referred to by submitters during the hearing, and had formed reference points in displacing thresholds for take-off climb and approach surfaces under both the Proposed Plan and Variation 27.

<sup>10</sup> The thresholds being the point at which the slope gradient of the take-off climb and approach surface commences. Obstacles beyond the runway may require moving (displacing) these back down the runway if they are to be safely avoided by aircraft on the runway flight paths.

distance from the Domain boundaries (the property boundary presumably also equating to the runway ends if the explanation is to hold).

The inherent calculations of course do not account for any changes in ground level, which is consistent with the PDP and Variation explanations indicating that all height limits are to be measured from the “mean average airfield height” (unspecified in the Plan). This was strongly criticised in submissions by the Gliding Club as unworkable, the Club instead indicating that height limits must be referenced to each approach and take-off climb surface gradient as determined by the actual height of the critical obstacle for that particular runway if they are to be effective. The Gliding Clubs point is reinforced if you factor in changes in topography even just within the airfield, which is possible using the Duffill Watts survey data of the runway surfaces.

Although exactly how mean average airfield height is to be calculated is not specified in the Proposed Plan or Variation, an approximation can be made of the mean average airfield height using the Duffill Watts data by taking the average (mean) of the surveyed ground levels at the points where the runway centrelines projected out intersect with the four property boundaries of the Domain. On that basis, and then applying the 220m setback as per the PDP and Variation rules, the threshold positions for the approach and take-off climb surfaces relative to surveyed ground level are as follows:

**Runway 20 (southwest)** – the threshold point based on the averaged ground level is approximately 2.2m metres above surveyed ground level.

**Runway 02 (northeast)** - the threshold point based on the averaged ground level is approximately 1m metre below surveyed ground level.

**Runway 28 (northwest)** - the threshold point based on the averaged ground level is approximately 0.4m of a metre below surveyed ground level.

**Runway 10 (southeast)** - the threshold point based on the averaged ground level is very slightly below surveyed ground level (by approximately 0.1m).

Figure 1 within attached **Appendix C** illustrates the profile of the respective take-off climb and approach surfaces as defined under the PDP, Variation 27 and the Duffill Watts report.

Although obviously intended to assist ease of administration of the height limit rule, as emphasised by the Gliding Club, this approximation approach using averaged ground level risks uncertainty for users of the Plan in interpreting what the permitted height is in any particular location and is confusing as to the actual positioning of the thresholds on the runways themselves. Most fundamentally though, it does not reflect CAA guidance in setting the height limits by reference to each take-off climb and approach surface gradient as determined by the height of the critical obstacle for that particular runway. I'll return to this particular issue in more detail later.

As to any suggestion that the Duffill Watts report is unreliable because it doesn't account for the degree of displacement prescribed by the PDP/Variation, as I've described, the purpose of the survey report was to identify the presence or otherwise of obstacles based on use of the maximum area available for gliding within the constraints of the site and lease, applying the applicable CAA guidelines. In my consideration of the Variation, I considered it fundamentally important to understand whether the CAA requirements could be met at all at Hororata and what, as a minimum, must happen if that was to be achieved. I sought that information irrespective of the scope of the Variation knowing that there are other remedies available to the Council if the scope of the Variation was ultimately found to be too prohibitive. In any event, because of the methodology applied, the information obtained by the survey of tree heights and their locations still enables a comparison to be made, within the scope available under the Variation, of the effect of those trees in maintaining obstacle free take-off climb and approach surfaces.

In summary, the Duffill Watts report identifies the following obstructions (vegetation) relative to the runways as defined under the assumptions expressed in that report<sup>11</sup>:

Runway 20 southwest (*referenced as 02 in the Report*)

- A macrocarpa hedge approximately 9m high running parallel to Hororata Road and located within the Domain. This hedge is up to 0.9m through the take-off climb surface on the northern edge.
- A large macrocarpa tree located within the Domain at the very edge of the take-off climb surface.
- A group of trees clustered around the boundary between 115 and 101 Hororata Road owned by BA Fineran and VD Murray. The tallest of these trees is approximately 19m high and 6.9m through the take-off climb surface.

Runway 02 northeast (*referenced as 20 in the Report*)

- The end pine tree of a plantation located within the Council Domain at the extreme northern edge of the take-off climb surface.
- A group of trees located within the northwest corner of the property owned by NC and PS Ross on Thwaites Road. The tallest of these trees is approximately 19.5m high and 8.6m through the take-off climb surface.

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<sup>11</sup> In the course of preparing the report it was thought that the number referencing for the runways was shown as incorrectly reversed in the District Plan and notified Variation. The Duffill Watts report therefore altered the references to the runways to be as follows: Runway 02 (southwest); Runway 10 (northwest); Runway 20 (northeast); Runway 28 (southeast). Clarification by the Gliding Club however has since confirmed that the original referencing was correct, consistent with international convention, and accordingly I have readopted that original referencing for the purposes of this determination and my recommendations.

Preparation of the report also identified an error in the plan forming part of the notified Variation which showed the approach surfaces splaying out from the runway ends at a ratio greater than 1:20. The plan contained within Appendix B of the Duffill Watts report correctly illustrates these splays at 1:20 for a distance of 1.2km, in accordance with Civil Aviation Authority (CAA) requirements. The consequence of this correction is that less land is potentially affected by height restriction than under the terms of the notified Proposed District Plan and subsequent Variation 27.



Runway 10 southeast (*referenced as 28 in the Report*)

- A eucalypt shelter planted adjacent the Domain boundary on a property owned by SH Harris. The trees in this shelter range in height from approximately 2m to 7.7m with the average height being about 4.5m. The trees range from 0.1m to 5.9m through the take-off climb surface.

Runway 28 northwest (*referenced as 10 in the Report*)

- No obstacles were found to protrude through the take-off climb surface for the northwest runway (referenced to avoid the relevant power poles on Hororata Road).

The approach/take-off climb surfaces and the location of these various obstacles were shown in plan view within the Duffill Watts report, which is reproduced as Figure 2 within the attached **Appendix C**.

It was apparent from the Duffill Watts survey findings that any claim to existing use rights was potentially to be a relevant matter in determining whether current obstacles (trees) should have a bearing on the setting of height restrictions and any consequent displacing of thresholds so as to ensure avoidance of such obstacles by aircraft. This was the focus of the Buddle Findlay opinion. Relevantly, the legal opinion advised that:<sup>12</sup>

- Any trees planted before the PDP (Rural Volume) notification date of the 8<sup>th</sup> of September 2001 can continue to grow up to the level of any subsequent height restriction, but not beyond what that restriction allows.
- Trees planted before the PDP notification date in 2001 that already intrude into the height restriction can lawfully continue to do so at the level they had reached when Variation 27 was notified on October the 28<sup>th</sup> 2006. However, they don't have rights to be able to encroach further into the height restriction than that if the effects of the activity (tree) would no longer be the same or similar in character, intensity and scale.
- Trees planted in the period between the notification dates of the PDP and of Variation 27 were planted in contravention of the Plan if they already do, or would on reaching maturity, encroach into the height limit defined under the PDP. Because they were not lawfully established such trees cannot claim existing use rights for any intrusion into the PDP limits and accordingly should have no influence in determining the positioning of any height restrictions relative to the runways.
- Trees planted after the notification date for Variation 27 must be maintained so as to avoid encroaching into the height restriction.

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<sup>12</sup> The legal opinion was directed to the issue of existing use rights in relation to trees. It is acknowledged that several fences/structures/buildings also constitute obstacles ("critical obstructions", as described in evidence for the Gliding Club), but there was no suggestion in the evidence I received that they were not lawfully established at present heights, and in my considerations I have taken that to be the case.

Setting aside those trees that are located within the Domain for the moment, the Duffill Watts report identifies trees encroaching the conservatively defined take-off climb and approach surface in relation to the southwest runway 20 (02) at the boundary of 115 and 101 Hororata Road (Fineran/Murray properties); the northeast runway 02 (20) on the Ross property on Thwaites Road; and the southeast runway 10 (28) on the Harris property adjacent the Domain boundary. Figure 1 within attached **Appendix C** shows the heights of these obstacles relative to the respective take-off climb and approach surfaces as defined under the PDP, Variation 27 and the Duffill Watts report.

Plotted relative to the displaced thresholds and averaged ground level<sup>13</sup> under notified Variation 27, those trees on the Fineran/Murray land encroach through the 1:20 take-off climb and approach surface (the tallest by approximately 4.8m). Similarly those on the Ross property encroach into the take-off climb and approach surface at that point by about 2m. In the case of plantings along the Harris property boundary, they range in height but at their tallest and closest to the surface are about 2.6m below the height of the take-off climb and approach surface.

Interpreting the evidence and legal advice, those trees on both the Fineran/Murray land and the Ross land are similarly tall, very mature specimens, and clearly existed prior to the 2001 notification of the PDP. Their existing use right would therefore be referenced to the height they had reached when Variation 27 was notified in late 2006. I didn't receive evidence challenging their existence prior to 2001; in fact technical evidence was given in support of these trees varying in age upwards from approximately 45 years. I similarly didn't receive any specific evidence on the height of these trees in late 2006, but it seems reasonable that growth in height since that time might have amounted to no more than a metre or so, and if they are to be avoided then the consequence is that the threshold points from which to establish the take-off climb and approach surfaces for runways 20/02 need to be positioned accordingly.

Under the RMA existing use rights prevail providing the effect remains either the same or of a similar character, intensity and scale. Without knowing the exact heights of these trees in late October 2006, there is some obvious convenience in taking any growth occurring in the months since that time to still be consistent with existing use rights, and even if that were questionable, I'm inclined to recognise some favourable margin given the approximations in identifying the top of any individual tree or cluster of trees inherent in both methods of measurement underlying the evidence I received on determining actual tree heights.

Turning to consider the shelter planting on the Harris land, it is far less apparent on the evidence I have received when those trees were planted. However, assuming they were

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<sup>13</sup> Neither the PDP nor Variation 27 specifies the mean average airfield height which is the reference height from which trees, structures and buildings are to be measured. Accordingly, in my considerations I have taken this to be the approximate average calculated, as I described previously, by taking the mean value of the surveyed heights at the four intersections of the runway centrelines with the Domain boundaries. That information was available to me from the Duffill Watts survey data.

planted prior to the PDP notification date, which at least seems possible, and applying the same legal advice, their existing use right would enable them to continue to grow up to the maximum height permitted under the Variation (in the order of a further 2.5m for the tallest specimens under the flight path).

The situation is comparatively worse in considering the PDP provisions which apply the more restrictive 1:30 gradient relative to the 1:20 under the Variation. Those trees on the Fineran/Murray land encroach further through the 1:30 take-off climb approach surface (the tallest by approximately 9m). Those on the Ross property also further encroach into the take-off climb and approach surface at that point by approximately 8.5m. Plantings along the Harris property boundary, at their tallest, extend marginally above the height of the take-off climb and approach surface (by approximately 200mm).

Notably it is evident from the Duffill Watts survey that there are no obstacles encroaching the take-off climb/approach surface for the northwest runway (28) under either the Variation or PDP provisions, if set to avoid the affected power poles on Hororata Road.

It is also significant to note that trees identified by Duffill Watts as being obstacles included some located within the Domain itself. Mr Boyes in his report discussed the applicability of the height rule to the Domain land that is designated. He stated that under the District Plan, and unaltered by the Variation, the height limits for trees, buildings and utility structures did not apply to any use of land within the Domain that is in accordance with the designated "recreation" purpose (paragraph 6.19 of his report). More fully, interpreting s176 of the Resource Management Act (RMA), this means:

- The activity of gliding, or any activity using the Domain in accordance with the designated recreation purpose, is not subject to rules within the Proposed District Plan controlling land use (s176(1)(a)). For any activity not in accordance with the designated purpose, the District Plan rules do apply.
- Without the written consent of the requiring authority, in this case the Council, nothing can be undertaken in relation to the designated Domain land that would prevent or hinder an activity occurring in accordance with the designated purpose.

Trees within the reserve also exist in accordance with the designated recreation purpose and add to the setting and enjoyment of recreation occurring within the Domain. This presents an interesting dilemma where one activity (trees) potentially interferes with another (gliding) where both are in accordance with the designated purpose. In the case of Hororata, the Duffill Watts survey identifies the potential for the macrocarpa hedge along Hororata Road and the nearby Macrocarpa tree beyond the southwest runway, and the very end of the pine plantation beyond the northeast runway, to encroach into the respective approach/take-off climb paths. I note however that both the individual macrocarpa specimen and the pine plantation are at best at the absolute extreme edges of the respective approach/take-off climb paths, and the macrocarpa hedge is effectively avoided if the approach/take-off climb surfaces to the

southwest are set to clear the taller trees clustered across Hororata Road on the Fineran/Murray land.

Any trees that are within the Domain land and might constitute obstacles to the safe operation of the airfield runways are of course within the Council's control as land owner, lessor and requiring authority. Accordingly, they could be maintained, or if necessary removed, so as to no longer constitute obstacles to gliding or have the effect of reducing runway length and/or width if they are able to be safely avoided. The Council's documentation in support of the Variation describes the matter of trees within the reserve as *"a lease issue between the gliding club and the Hororata Reserve Committee and beyond the scope of the PDP in the context of the planning framework applying to the site<sup>14</sup>."* Whilst that may be so, insofar as vegetation has the potential to hinder or even prevent gliding activity in accordance with the designated purpose, I consider it does have some significance and relevance to the consideration of height limits, and if such limits are to apply, how they might be imposed.

It would certainly seem self defeating to promote District Plan height limits in accordance with CAA guidance supporting safe operation, only to have that undermined by other (legitimate) activity also occurring within the Domain. In my view that is a very relevant consideration for the Council in exercising its various responsibilities in relation to the Domain land, particularly recognising the constraints over the application of District Plan rules where a designation is in place.

With the situation regarding the presence of obstacles and the potential implications of those for safe gliding made more evident through the specific survey work commissioned, several relevant matters were raised by submitters in response to that information. They included:

- *Criticism of an apparent disregard for changes in ground level elevation beyond the Domain in identifying potential obstacles.* The Duffill Watts survey methodology involved surveying directly the long recognised physical obstacles outside the reserve (poles, fences) and used that information, and the line of fences within the Domain marking out runway areas, to first establish the positioning of the approach/take-off climb surfaces in maximising the runway areas. Having done so they then identified any features protruding through the respective inclined surfaces. Where there were intrusions, the top of those intruding features was established relative to the slope surface giving an accurate fix on the top of the feature and a measurement of the degree of intrusion (i.e. how far through the slope surface gradient each individual obstacle extended). Conveniently this methodology avoided having to establish relative changes in ground level at the base of the obstacle as that was inherently accounted for in the survey method used.

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<sup>14</sup> Summary of Section 32 Evaluation – Variation 27 – Amendments to the Hororata Height Restrictions, paragraph 36, page 9.

- *Identifying some discrepancies between the two independent surveys of tree heights, i.e. that undertaken by Mr Mathers for the Oliver's as presented to the hearing and that undertaken later by Duffill Watts.* The elevation and contouring of the runways was surveyed by Duffill Watts and an approximation was made of the overall height of the trees identified relative to that. However, because the survey method focused on the degree of intrusion through the slope surfaces, an approximation only was made of the individual tree heights by way of extrapolation. I suspect therefore that the individual measurement of tree heights as undertaken by Mr Mathers provides the more accurate measurement of actual height above ground level. However, that in no way undermines the survey outcomes by Duffill Watts positioning the top of obstacles relative to the slope surfaces. A further contributing factor for any differences could be the approximation and judgement necessary in both cases in deciding what constitutes the top of the individual tree, particularly for what are in most cases large, mature specimens or clusters of trees.
  
- *Recognition that the Variation and Proposed Plan provisions both are referenced to displaced thresholds (220m) not the hypothetical maximum runway areas available to the gliding club as per the Duffill Watts assumptions.* I've already acknowledged and discussed this, and I'll return to this matter again later.
  
- *Apparent confusion or disagreement regarding existing use rights and the extent of those rights.* I've set out and have been guided by the legal advice obtained in respect of existing use rights and their application to apparent obstacles, trees in particular. I've taken the trees identified by Duffill Watts as obstacles to all have legitimate rights to existing use and, where applicable, allowed some additional margin to account for growth occurring since late 2006 and approximation in the identification of the top of these features as being consistent with their effects remaining of a similar character, intensity and scale. Where existing use rights would seemingly allow for some further growth (e.g. the shelter planting on the Harris property boundary), I've recognised and allowed for additional height up to the Variation 27 maximum as defining the extent of those rights.
  
- *Additional information predicting the age of particular trees provided by Cabbage Tree Forestry Limited.* This information was helpful in aging some of the identified obstacles and of relevance in understanding rights of existing use.
  
- *Some suggestion by the Gliding Club as to how proposing notional strip width and orientation may slightly minimise areas affected by the approach surfaces.* Unfortunately further detail of how that might actually be reflected in defining the runway strips and approach/take-off climb surfaces was not forthcoming. Accordingly, I've been guided by the current orientation and available width of runway area, which could very well retain operational flexibility for the particular aircraft in operation.

- *Clarification of the correct protocol for runway referencing.* Already discussed.

Against that background and discussion, I'll now move on to consider the Variation in terms of the relevant requirements of the RMA.

### **The Council's s 32 (1) Evaluation – Pre-notification**

The Council's analysis under section 32 (1) of the RMA was summarised in the attachment to the Variation document as publicly notified. My Boyes discussed this evaluation further in his report. That summary describes how the Council considered three options in bringing forward the Variation. Those were (1) amending the 1:30 approach slope to be steeper at 1:20, consistent with CAA guidelines; (2) retaining the provisions as they existed in the notified Proposed District Plan (the do-nothing option); and (3) removing the height restrictions altogether.

Variation 27 arose following the necessary statutory analysis, with the Council deciding to amend various aspects of how the height rule applied and to be more consistent with CAA guidance in defining the necessary approach and take-off climb surfaces. It was also decided to remove from the District Plan reference to the transitional surfaces applying to the sides of the approach/take-off climb surfaces (affecting only land within the Domain), and the "general height limits" of 20m, 40m and 60m which applied at distances of 100m, 500m and 1000m from the airfield boundaries respectively. As already described, other amendments were made to maintain internal consistency within the Plan and to remove the restriction on planting of trees that on maturity would breach the height limit, favouring instead the less onerous requirement that trees are to be maintained so as to achieve compliance with the height limits.

The Variation largely reflects amendments that were seen as appropriate by the original Hearings Panel which considered submissions made to the Proposed Plan, but were unable to be implemented through decisions on those submissions because of their limited scope for relief.

Either in the written submissions received to the Variation or in evidence at the hearing, no submitter argued the Council's evaluation in terms of the requirements of section 32 to be procedurally deficient. The focus of submissions and evidence to the hearing was in seeking to either change the outcome of the Variation or have it withdrawn.

### **Further Evaluation – Section 32 (2) (a)**

The evaluation undertaken by the Council in developing the Variation to the stage of public notification is similarly also to be undertaken before a decision is made on the Variation, and must examine –

- (a) *the extent to which each objective is the most appropriate way to achieve the purpose of this Act; and*
- (b) *whether, having regard to their efficiency and effectiveness, the policies, rules, or other methods are the most appropriate for achieving the objectives.*

That examination must take into account (s 32 (3)) the benefits and costs of policies, rules and other methods, and the risks of acting or not acting if there is uncertain or insufficient information.

Variation 27 includes no amendment to the objectives of the Proposed District Plan. Minor changes only are made to Policy 16 to achieve consistency of wording between the “Township” and “Rural” volumes of the Plan and to more correctly refer to CAA “guidelines” rather than “regulations” in the explanation of the policy.

Accordingly, I have not considered subclause (a) above any further and the issue becomes a consideration of determining which of the available alternatives (under clause (b)) is the most appropriate for achieving the unaltered objective(s) of the Proposed Plan.

There are multiple objectives for the management of the resources of the Rural Zone, but of most direct relevance to Variation 27 is the following objective:

- 1. *The safe and efficient operation of roads, railway lines and airfields is not compromised by effects of new land uses.*<sup>15</sup>

Other relevant objectives seek to ensure the rural area is a pleasant place in which to live and work, and in providing for a variety of activities to occur in that area, also maintain rural character and avoid reverse sensitivity effects<sup>16</sup>.

As to the alternatives that I’m to consider, I have taken those to include:

- Fully reinstating the Proposed Plan provisions as they were prior to the Variation, or
- Reinstating those Proposed Plan provisions in part and/or confirming the Variation in part, or
- Fully confirming the Variation.

In addition to these alternatives, many of the opposing submitters have sought the complete removal of height restrictions in relation to the airfield use, at least insofar as they affect private land. This was one of the options initially considered by the Council in conceiving the Variation, as described in the Council’s s32 summary.

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<sup>15</sup> Rural Volume, Part 2 Physical Resources, Section 2.1 Transport Networks (Road, Rail & Airfields) – Objective 1.

<sup>16</sup> Rural Volume, Part 3 People’s Health, Safety and Values, Section 3.4 Amenity Values, Quality of the Environment and Reverse Sensitivity Effects – Objectives 1 and 2.

In relation to this request by submitters, Mr Boyes outlined in his report his reservation about whether doing so fell within the scope of this Variation as it has now been notified. He expressed unease with interpreting the removal of all airfield related height restrictions as an available alternative when the Proposed Plan already includes height restrictions and the Variation was in essence seeking to only modify how they are to apply, albeit with the consequence of generally lessening their degree of restriction.

I understand the reasoning put forward by Mr Boyes, but equally I can appreciate how submitters could have taken the Variation as an opportunity to reconsider the necessity for height restrictions at all, particularly when the Council's own s32 evaluation included in the notification of the Variation discusses removal of the height restrictions as one of the options considered. Furthermore, it was made very clear in original submissions that this was the relief being sought by many of the submitters, and that could have been challenged in further submissions and wasn't.

Conservatively and on balance, I am inclined to at least consider this alternative option as potentially available to the Council and within the overall scope and purpose of the Variation.

#### *Removal of height restrictions*

If there were no airfield associated height restrictions, that in itself would not preclude gliding activity occurring in accordance with the designated purpose or CAA operating guidelines. The responsibility to ensure CAA requirements were met rests with the airfield operators and users. While compliance may be possible at the moment, the risk for those users is that that could be impeded or even prevented by the emergence of obstacles on land under the various approach/take-off paths. That could be progressive as vegetation grows or more immediate with the positioning of buildings or machinery, and in either case would be beyond their control to influence other than by negotiated agreement with affected landowners.

To date the earlier decisions of the Council's Hearing Panel on submissions to the Proposed Plan have favoured retaining height restrictions, and that has remained the Council's position in preparing the notified Variation. The consistent reasoning reflects Council's statutory obligations to provide for the health, safety and wellbeing of people in general (RMA section 5 (2)); ensuring the operational capability and safety of the airfield is protected recognising the long-standing use by recreational gliders; and to clearly signal in a practical way what level of restriction over surrounding land results from meeting minimum standards of safety. The Council's decision on what height restrictions to impose has sought to reconcile achieving minimum safety standards through consistency with CAA guidelines with the reasonable expectations of surrounding activities that are affected – housing and rural land uses in particular.

Having considered the latest submissions and most recent evidence relating to the Variation, I concur with the Council's earlier reasoning and I can see considerable merit in having height



restrictions imposed in relation to the use of the airfield within the Domain at Hororata. Furthermore, and as I will go on to explain more fully shortly, I do not consider the implications of a level of restriction reflecting the CAA's minimum safety guidelines to be unreasonably onerous for either current or anticipated future uses of affected land. Accordingly, I do not recommend to the Council the removal entirely of height limits associated with use of the Domain as an airfield while that use remains feasible, nor recommend accepting submissions made in relation to Variation 27 insofar as they seek that outcome.

Full reinstatement of the Proposed Plan provisions

As described, there are two main purposes to the District Plan height limits in relation to the Hororata airfield. The first is to reflect what is required (as a minimum) in maintaining the safe operation of the airfield for gliding in accordance with the relevant CAA requirements, at the same time maintaining wider public health, safety and well being. The second is to signal and make clear the level of restriction that imposes over some surrounding land and activity occurring on that land.

If the activity of (recreational) gliding could not occur on the land because the relevant CAA requirements could not be met, or for any other reason, then there is no justification to having the height restrictions apply.

I heard no evidence questioning the intention of seeking to ensure the District Plan provisions were consistent with applicable CAA guidance on safe airfield operation if gliding was to continue to occur and associated height limits were to be imposed. Evidence was presented however questioning whether that had been achieved originally through the Proposed Plan and even later through the form of the publicly notified Variation. On the evidence, it is apparent that there are aspects of the Variation that do not satisfy that intended purpose, and those aspects go beyond just the diagrammatic misrepresentation of the 1:20 outward splays for the approach/take-off climb surfaces in Appendix 19. I'll discuss this further in relation to other alternatives I'm to consider.

Equally though in terms of reverting to the Plan provisions prior to the Variation, there are very clear inconsistencies between the notified version of the Proposed Plan and the applicable CAA guidance (AC139-07A) in respect of the following:

- The applicable, minimum requirement for take-off climb and approach surfaces should rise from the end of the runway strip and be obstacle free above a gradient of 1:20. The Proposed Plan specified this to be a gradient of 1:30 – a more restrictive gradient in terms of potential obstacles occurring on land below the surfaces.
- Take-off climb and approach surfaces should extend horizontally from their inner edge for a distance of 1200m, not for 2000m as expressed in the Proposed Plan. Although beyond 1200m they are at a horizontal distance where the surfaces are a considerable

height above the ground, this again imposes a degree of restriction greater than necessary to comply with CAA guidance.

- The Proposed Plan specified that the take-off climb and approach surfaces splay out at a gradient of 1:5 for the initial 1000m, then at 1:20 for a further 1000m. That is not the requirement for the Hororata airfield which in accordance with the guidance for daylight non-instrument operations (VFR) requires a constant 1:20 gradient for a total distance of 1200m.
- The take-off climb and approach surfaces should rise from a threshold perpendicular to the alignment of each runway rather than parallel to the Domain boundary.
- The Proposed Plan imposed general, graduated height limits radiating out from the airfield boundaries, in addition to those necessary to protect the take-off climb and approach surfaces. These do not reflect CAA guidance, are not required to achieve compliance and impose a degree of restriction over land surrounding the Domain beyond the minimum required for safe airfield operation.

As well as being more restrictive over surrounding land than CAA guidance suggests is necessary for safe operation, individually and collectively the above departures from CAA advice impose greater restriction over affected rural land. Like Mr Boyes and most submitters I can see no justification for such a degree of additional restriction, considering the costs/benefits of doing so and effectiveness and efficiency in achieving the Plans objective. I note that the Gliding Club representatives at the hearing were also in agreement on this.

Further, the Gliding Club in submissions and evidence questioned any “arbitrary” displacing of thresholds, noting that displacement of the starting point from which to project take-off climb and approach surfaces was only justified in avoiding existing critical obstructions. As described, Mr Bethwaite and Mr Goddard for the Gliding Club identified those critical obstructions as historically being the 8m high power poles along Hororata Road (coupled with the equivalent height hedge in the case of the southwest runway 20) and the 1m high fence on the east side of the water race off the end of the southeast runway 10. As noted, the averaging of ground level across the airfield in setting the position of approach and take-off climb surfaces was also criticised.

Whilst avoiding those historical reference features beyond the reserve, the survey findings reveal there to be other obstacles with apparent existing use rights extending above the take-off climb and approach surfaces as defined by the Proposed Plan. Accordingly, as long as those obstacles continue to exist, resorting to the Proposed Plan provisions would not reflect CAA requirements, and the safety of airfield operation and surrounding activity could potentially be compromised. For southwest runway 20 and northeast runway 02, even at the correct and less restrictive 1:20 gradient, the degree of displacement necessary to avoid those obstacles is **more than** the 220m displacement distance specified under the PDP, the consequence being to further restrict runway length (refer Figure 1 in attached **Appendix C**). However, that principally affects airfield users who have an obvious interest in conforming to the CAA guidelines for safe operation, and for land beyond the Domain it has the effect of being

comparatively less restrictive. On the evidence I heard, there was no compelling suggestion that for safe operation a level of restriction less than or beyond the CAA minimum requirements was justified in the case of Hororata Domain and associated use for gliding activity.

For northwest runway 28 the degree of displacement required to avoid critical obstructions, again even at the corrected gradient, is **less than** the 220m specified in the PDP. For southeast runway 10 the degree of displacement required, acknowledging that existing use rights provide for some further growth of shelter planting on the Harris property, is **the same as** under the PDP. In the case of runway 28 to the northwest, the effect would be to enable greater runway length but slightly lower height limits beyond the runway over surrounding land. However, if a comparison is made with the PDP permitted heights at the point 20m from the Domain boundaries to the northwest, the maximum height to avoid encroaching the less displaced approach/take-off climb surface is very similar (less than a metre lower) to what would have actually been permitted under the PDP referencing the height limits to mean average airfield height (rather than actual ground level).

At this point it is appropriate to consider the implications of whatever surfaces might be set with the reasonable expectations of surrounding, affected landowners. This was the focus of many of the submissions and Mr Boyes addressed this in his report in considering the implications for existing and potential dwellings, accessory buildings, structures, trees and farming operations (informed by the Land Use Assessment report prepared earlier for the Council<sup>17</sup>). The evidence strongly supports at least reflecting the minimum CAA requirements for safe airfield use if height limits are to be set in relation to land within and surrounding the Domain. As Mr Boyes identifies, the setting of height restrictions to support safe and efficient aircraft and airfield operation, even if that imposes constraint over private land, is well precedented nationally and can be considered to be in accordance with the functions, duties and powers set out in sections 31 and the standards for Plans in sections 74, 75 and 76 of the RMA. The various sorts of concerns expressed by many submitters as to the consequence of that restriction for their affected properties however must also be considered in determining whether or not to do so, and that is inherent in fulfilling the Council's s32 responsibilities.

Zoning provisions for surrounding rural land provide for dwellings to a permitted maximum height of 8m, and applying the minimum displacement of thresholds necessary to avoid critical obstacles, that is not prevented beyond any of the four runways. As Mr Boyes described, the maximum permitted height for accessory buildings is 12m, with grain silos permitted to 25m. He noted that 12m was a comfortable approximation of the height of the tallest poles along Hororata Road and on that basis recommended using that 12m height as a reference to then displace thresholds for approach/take-off paths affecting land to the west of the Domain across Hororata Road. Doing so would also have the added benefit of protecting that maximum height accessory building opportunity for the immediately adjoining properties. Affected properties in

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<sup>17</sup> "Preliminary Assessment of Land Use Issues Arising from Height Restrictions Surrounding Hororata Airfield" by Brooks & Associates Agribusiness Consultants, dated 13 September 2006.

this area are largely lifestyle type properties and include several dwellings and various associated buildings.

If the take-off climb and approach surface in relation to the northwest runway is set so as to just avoid the relevant power poles on Hororata Road, as Duffill Watts did, the consequence is to limit heights to approximately just over 10m above ground level at a point 20m from the Domain boundary on the line of the centre of the runway<sup>18</sup> (refer Figure 3 in attached **Appendix C**). With the width of the legal road this roughly corresponds with the road boundary of private property west of Hororata Road. Because of the angle of the Domain boundary relative to the line of the runway, the property most restricted however is that under the southern edge of the take-off climb and approach surface. Over the part of this property that is beneath the surface the maximum height would be limited to be something nearer 9m above ground level. Providing for 12m high buildings to be clear of the take-off climb and approach surface at this point would require further displacing the threshold inward by in the order of 60m.

Having considered the slightly greater degree of height restriction relative to the permitted level for accessory buildings on some land affected beyond the northwest runway, I'm not convinced on the evidence I received that it would detract significantly from current or future use of this land. Given property size and configuration this additional limitation would not relate to all of any individual affected title and several of these properties are already well developed to include dwellings and accessory buildings. Other factors would also have a bearing on where additional buildings could be located on these properties, such as the Plan's setback requirements from site boundaries. It was also clear from evidence given for the Gliding Club that they considered further displacing the threshold could severely reduce the usable take-off and landing distances rendering it unusable, compromising both safety and utility. On balance I favour maintaining the displacement of the take-off climb and approach surface to the northwest only insofar as is necessary to avoid the power poles along Hororata Road. This was essentially the positioning used in the Duffill Watts report. As to the wider effects of that for property on the approach/take-off paths, I do not consider those to be unacceptable, or dissimilar to those that have arisen over the considerable period that gliders have made use of the Domain. I also note that existing tall vegetation could remain at least at its current height and continue to contribute to amenity values in the location.

For land to the east, affected titles tend to be larger in comparison to those to the west and the main land use is pastoral farming. There was clear dissatisfaction expressed at the hearing of any restriction that would impinge on the opportunity to reasonably continue to conduct rural land practices, particularly loss of shelter or fencing, and the ability to use machinery such as irrigators. Again, looking at the heights that would be permitted if take-off climb and approach surfaces were based on avoiding the critical obstacles, I do not consider the extent of constraint over rural land practices within the affected land to be significant. Certainly parts of some

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<sup>18</sup> As measured along the projected centre line of the available runway width and using the Duffill Watts survey points as close to the boundary as possible to approximate ground level 20m beyond.

landholdings, particularly those closest to the airfield, would be restricted in terms of the heights of buildings and other structures, but even that approach would still provide for buildings/structures located 20m from the Domain boundary to be in the order of 13m high to the northeast and 12m to the southeast on the line of the centre of the runways (refer Figure 3 in attached **Appendix C**). They could be progressively higher further from that boundary. I'm also persuaded by the conclusion of the assessment report prepared by Brooks & Associates that height restrictions, even as per the Variation, would have limited impact on continued and potential rural productive use of land beneath and adjacent to the approach/take-off climb surfaces.

As for other permitted buildings, I consider the extent of area surrounding the airfield within which grain silos could not extend to a full 25m in height to be minimal in the context of the surrounding land uses and soil types, and the degree of restriction imposed over any one individual property.

In terms of the opportunity for shelter planting, the critical obstacles identified through the survey are existing trees for three of the four runways, and I've indicated I favour those setting the displacement of thresholds consistent with CAA guidelines. In doing so, and referencing the actual height of power poles on Hororata Road in the fourth instance, heights on the line of the centre of the runways would be limited to approximately 10m at 20m from the Domain boundary to the northwest (beyond runway 28); 12m at 20m from the boundary to the southeast (beyond runway 10); 13m at 20m from the boundary to the northeast (beyond runway 02); and 22m at that same distance from the boundary to the southwest (beyond runway 20). As for properties to the west, none of the existing vegetation to the east would be prevented from remaining at least at its current height and in the case of the shelter planting on the Harris property, there is scope for it to grow further still. On the evidence I received, I do not consider that such 'permitted' maximum heights would be such as to overly hinder establishing buildings, structures or planting in maintaining or enabling productive rural land use. I'm equally persuaded that displacing thresholds on this basis would appear not to unreasonably constrain airfield operation.

More generally in terms of the amenity values associated with these surrounding properties, I'm not convinced there is sufficient reason to further displace thresholds on amenity grounds. Much of the opposition expressed at the hearing was directed towards preferring that no gliding occur at all, and from my questioning of submitters I did not sense that gliding at a higher altitude but still on the same flight paths would have gone far towards satisfying those seeking that outcome. Others did express concerns regarding continued safety, disturbance and enjoyment of their properties, however gliding remains a legitimate activity consistent with the recreation purpose of the reserve designation, and as I have stated, I did not hear convincing evidence supporting imposing more stringent requirements than those of the CAA which are specifically directed towards providing for both safe aircraft operation and the safety of those on the ground. I'm also mindful that gliding as an activity is not new to the area and has been conducted to varying degrees from the Domain at Hororata now for close to 40 years.

In relation to other matters, the Proposed Plan also includes reference to transitional side surfaces which, in accordance with CAA guidance, are surfaces applying to the sides of the runway strip and also (in part) the take-off climb and approach surfaces. In the case of Hororata airfield, these define surfaces to be clear of obstructions extending sideways and upwards at a gradient of 1:4 until reaching a height 2m above the runway strip. The Proposed Plan however incorrectly described these rising at a gradient of 1:4 to a height of 10m and then rising vertically. The Variation removed all reference to transitional side surfaces.

In evidence given for the Gliding Club, it was requested that for completeness and consistency the transitional side surfaces should be reinstated and that they didn't, in practice, affect any neighbouring properties as they only applied to the sides of the runway strip and not the take-off climb and approach surfaces. Mr Boyes in his report supported their removal, as I understood it, because they essentially do not affect land beyond the designated Domain.

Notwithstanding the view expressed by the Gliding Club, it is my interpretation of the CAA guidance that the transitional side surfaces at the side of the strip extend down the approach/take-off climb surface until they join that surface at a height of 2m (which will be 40m from the end of the strip due to the 1:20 vertical slope of the approach/take-off climb surface<sup>19</sup>). To that extent they do relate to the approach/take-off climb surfaces in part, but in the case of Hororata, not such that they apply over land beyond the boundaries of the Domain.

While that means they do not have any restrictive effect beyond the immediate vicinity of the runway strip(s) and not beyond the designated land, they do potentially have relevance to other activities that might occur (even if that were rare or unlikely) in close proximity to the runways<sup>20</sup>. Because any activity within the reserve is essentially controlled through the designation and by the requiring authority (the Council) rather than through the District Plan, that relevance has more to do with fully signalling an area of "restriction" if gliding is to be unimpeded. For that reason I consider those transitional surfaces being identified in the District Plan has some legitimacy in meeting the purpose of the Variation and the Plans relevant objective, if only to assist in signalling what is required for CAA compliance (refer attached **Appendix A**).

Lastly, I note the change to the rule under the Variation regarding trees, and I favour the amendment to require trees to be maintained so as to not encroach through the height limit rather than being prevented from being planted if they would breach the limit on maturity. The implication of the Proposed Plan requirement is to impose greater restriction on private land for no apparent benefit, the cost of which is to unreasonably restrict the extent to which trees could

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<sup>19</sup> Refer to the attached "Transitional Side Surfaces" diagram included in attached **Appendix A**, reflecting CAA AC 139-7 & AC 91-15: section 3.2.3.

<sup>20</sup> Relevantly I note that the Buddle Findlay opinion provided to the Selwyn District Council dated 14 November 2006 and attached as Appendix Two to the report by Mr Boyes describes the Gliding Clubs lease as enabling the Club exclusive use and possession of the leased land on not more than 80 days each year or on more than 6 days consecutively. It however goes on to note that the lease conditions would not be breached by gliding activity occurring for the balance of the year providing there is no attempt to prevent the public from having access.

be planted beneath the approach and take-off climb surfaces. Submitters have emphasised the importance of trees in terms of both providing shelter for stock and also for amenity reasons, and I see no justification for such a degree of restriction when CAA requirements for safe airfield operation can still be met. In my consideration, the Proposed Plan approach in this regard is neither the most effective nor efficient in meeting the objective of ensuring airfield operation is not compromised, having regard to the implications of the greater degree of restriction for surrounding activity. I note the relevant rules of the District Plan for trees and plantations apply to both Hororata Domain and West Melton airfield and my conclusion is applicable to both contexts.

The Variation also removed specific reference to “Hororata airfield” from the PDP, instead referring to “Hororata Domain”. The Gliding Club sought this be reinstated in reflection of the longstanding use by the club. Notwithstanding the obvious and at times exclusive use of land within the Domain leased by the Gliding Club, I prefer maintaining reference to “Domain” rather than “airfield” recognising the broad recreation purpose of the designation and the prospect of a range of activities still occurring on the land.

Overall therefore, having regard to efficiency and effectiveness, I do not consider fully retaining the height provisions in their Proposed Plan form would constitute the most appropriate way to achieve the Plan’s objective.

*Reinstating those Proposed Plan provisions in part and/or confirming the Variation in part*

This alternative contemplates a “middle ground” between the provisions of the Proposed Plan and the Plan’s provisions as modified under Variation 27. That might include adopting elements of either or both.

As already stated there is merit in correcting obvious errors in the Proposed Plan both as sought to be overcome by the Variation, and as have become apparent in the course of the hearing. Beyond those aspects, I’ve also already described several other matters within the Variation (amending the Proposed Plan) that I do not consider are the most appropriate in achieving the objective. They are:

- Removal of the transitional side surfaces from the runway strips.
- Insufficient displacement of the thresholds necessary to ensure trees on the Fineran/Murray land and the Ross land are clear of the approach and take-off climb surfaces extending from the airfield to the southwest and northeast respectively (runways 20/02).
- Greater displacement has been made than is necessary to ensure power poles on Hororata Road or other potential obstacles to the northwest beyond runway 28 do not encroach beyond the applicable approach and take-off climb surface.
- Unaltered from the PDP, the application of the height limit rule by way of reference to a mean average airfield height rather than referencing the limits to the relevant critical

obstacles, as well as taking account of actual changes in elevation across the airfield and across the runways in particular.

A very similar situation emerges to that I've already described under the PDP, in comparing the degree of threshold displacement necessary to avoid critical obstacles relative to the Variation provisions where the comparatively less restrictive gradient of 1:20 applies. As discussed, for southwest runway 20 and northeast runway 02, the degree of displacement necessary to avoid those obstacles is more than the 220m displacement distance specified under the Variation. The consequent shortening of available runway length is necessary if CAA requirements are to be met, and for land beyond the Domain it has the effect of being less restrictive in terms of avoiding intrusion through the approach/take-off climb surfaces.

For northwest runway 28 the degree of displacement required to avoid critical obstructions is less than the 220m specified in the Variation. Recognising existing use rights, the degree of displacement in respect of southeast runway 10 remains the same. For runway 28 this effectively enables greater runway length and results in slightly lower height limits beyond that runway over surrounding land. However, again a comparison can be drawn with the maximum height permitted under the Variation using a point 20m from the Domain boundary to the northwest. This indicates that the maximum height to avoid encroaching the less displaced approach/take-off climb surfaces is very similar compared to what would have actually been permitted under the Variation which, as outlined, references the height limits to mean average airfield height (rather than actual ground level which begins to rise in this direction). In reality therefore the actual difference is minor in comparison.

Additionally, a matter clearly the cause of confusion for some submitters during the hearing was the correct interpretation of the indicative heights necessary to meet the limits at various distances from the runways. These are shown on the plans contained in Appendix 19 of the Proposed Plan as notified and are retained on the substitute plan included with the Variation. The intention of these is laudably to offer some guidance as to the heights that can't be exceeded in order to avoid the gradually increasing take-off climb and approach surfaces as you move further from the airfield. In practice however, they risk misinterpretation and could be taken to represent the increase in height as a progressive "stepping up" of height limits with increasing distance away from the airfield. It was apparent that at least some submitters have made that incorrect interpretation.

It is my view that providing some guidance on interpreting the applicable heights is sensible and helpful, but that could be better achieved through improved graphical representation in the Plan. This would not change the actual height restriction prescribed, simply how that restriction is explained. In this regard, included within attached **Appendix A** is a diagrammatic representation of how the maximum height is determined relative to ground level and the take-off climb/approach surface, and I recommend that such a diagram be incorporated into the District Plan to assist with explanation of the rules.



For the various reasons I've set out, accepting aspects of both the PDP and Variation provisions, but in conjunction with recognising existing use rights and making additional corrections and modifications to achieve compliance with CAA minimum guidelines for safe aircraft operation, I consider represents the most effective, efficient and appropriate way to achieve the Plan's objective.

#### Fully confirming the Variation

None of the submissions have sought the full retention of the height restriction provisions as per the notified Variation. Equally, the recommendation of Mr Boyes seeks to modify aspects of the varied Plan provisions by further adjusting the position of several of the approach/take-off climb surfaces. It has also become apparent that various errors of drafting exist in the associated Proposed Plan and Variation provisions, and irrespective of the outcome on other aspects, they merit correction.

Given my earlier conclusions on partial confirmation of the Variation, it is self evident that I consider confirming in full the height restriction provisions as per the notified Variation would not constitute the most appropriate way to achieve the objective.

A key aim of the Variation, as notified, was to be consistent with CAA requirements in defining the approach/take-off climb surfaces from which to then determine maximum heights under the flight paths. I consider that still to be a valid aim and therefore it is logical that appropriate modification of the Plan provisions should occur consistent with that outcome if the Variation is to be accepted.

#### **Conclusions**

By way of summary, my consideration of the Variation and associated submissions made on it leads me to conclude the following:

- It is appropriate to impose height restrictions in relation to the airfield at Hororata to reflect the applicable CAA minimum operational requirements and guidelines. Such a degree of restriction promotes certainty and safety for both airfield operators and users, and for people and activities occurring on surrounding land, and is consistent with the sustainable management purpose of the RMA.
- In setting the take-off climb and approach surfaces to which height limits are to be referenced, they should be determined so as critical obstacles underneath those surfaces are able to be safely avoided by aircraft, recognising (as applicable) rights of existing use.
- For two of the four runways (northeast and southwest), those critical obstacles comprise vegetation with apparent existing use rights to the heights at or about their height as surveyed by Duffill Watts in late 2007. Given the difficulty in achieving precise

measurement of the top of an individual feature, I consider adding a margin of a further metre above those surveyed heights is prudent and reasonable in setting the take-off climb and approach surfaces and associated displacement of thresholds.

- For the runway to the southeast where boundary planting on the Harris property can continue to grow to a maximum height of in the order of 10m under apparent existing use rights, that height should determine the appropriate threshold displacement in setting the take-off climb and approach surface.
- In the case of the fourth runway (northwest) where power poles along Hororata Road are the critical obstacle, the surveyed heights of those poles should be used in setting the take-off climb and approach surface and associated displacement of the threshold.
- Selwyn District Council will need to exercise its various responsibilities in relation to the designated reserve (Hororata Domain) such that the intentions of the District Plan height limit provisions are not undermined by vegetation or other obstacle existing or occurring on the reserve land.
- Whilst imposing some additional restriction over otherwise maximum permissible heights under the District Plan, the degree to which that adversely affects land and activity in the areas impacted is relatively limited both in extent and significance. Furthermore, it is not such that current or potential future activity on the affected land is unduly constrained.

## **Recommendation**

Accordingly, I recommend that the Selwyn District Council confirm Variation 27 in part and insofar as the following amendments are made to the Selwyn District Plan:

### Proposed Selwyn District Plan Township Volume

1. Amend, Part 2, Section 2.1 – ‘Transport Networks – Road, Rail and Airfields’, policy 16 explanation and reasons, to read as follows:

*Part of Hororata Domain is leased for recreational gliding. West Melton airfield is a public airfield. Land under the approach paths to both airfields needs to be kept clear of very high structures to ensure the airfields can operate safely and within Civil Aviation Authority guidelines. West Melton airfield is located in Selwyn District, as is land affected by the height restrictions of the airfield.*

*Hororata and West Melton townships are not currently affected by the respective approach surfaces of West Melton Airfield and Hororata Domain Airfield. The issue of structures and plantings beneath the approach surfaces of these airfields is therefore likely to become more of an issue for West Melton and Hororata townships if either township expands in the direction of the respective airfield. This is a matter which shall be considered if the Council receives a plan change for new residential or business development at West Melton or Hororata. [R.27.2]*

Proposed Selwyn District Plan Rural Volume

2. Amend, Part 2, Section 2.1 – ‘Transport Networks – Road, Rail and Airfields’, policy 16, to read as follows:

*16. Ensure structures and activities do not adversely affect the safety of aircraft approaches to Hororata Domain or West Melton airfield.*

3. Amend the description of Part 3, Appendix 19, to read:

*APPENDIX 19 – HEIGHT LIMITS FOR WEST MELTON AIRFIELD AND HORORATA DOMAIN*

4. Amend the notes set out in Part 3, Appendix 19 applying to the Hororata Domain, to read as follows:

**Hororata Domain**

- (a) *Take-off climb and approach surfaces for each runway rise at a gradient of 1 in 20 commencing within the Domain at the points indicated on the plan which forms part of this appendix. The take-off climb and approach surfaces extend outwards from these points for a horizontal distance of 1200 metres;*
- (b) *Take-off climb and approach surfaces also splay outwards at a gradient of 1 in 20 from the points as illustrated on the plan which forms part of this appendix;*
- (c) *In addition, transitional side surfaces for runways 02/20 and 10/28 slope upwards and outwards at a gradient of 1 in 4 from the edge of the runway strip and approach/take-off fans described in (a) and (b) to a height of 2 metres, as illustrated by the diagram which forms part of this appendix.*

Note: *The points shown on the plan which forms part of this appendix indicate the positions (thresholds) from which the take-off climb and approach surfaces begin. The height limits for buildings, structures and trees are to be measured from ground level relative to those surfaces.*

5. Replace the existing Hororata Domain height restriction diagrams provided in Appendix 19 with those within attached **Appendix A**, including the diagrams illustrating the transitional side surfaces and how maximum height relative to ground level is determined.

6. Amend, Part 3, Rule II – Tree Planting, 1.7 ‘Shelter and Amenity Trees’, to read as follows:

*Any tree is planted and maintained so that it does not encroach within the height restrictions for West Melton Airfield or Hororata Domain, as shown in Appendix 19;*

7. Amend, Part 3, Rule II – Tree Planting, 8.7 ‘Plantations’, to read as follows:

*Any plantation is planted and maintained so that it does not encroach within the height restrictions for West Melton Airfield or Hororata Domain, as shown in Appendix 19;*

8. Amend, Part 3, Rule III – Buildings, 1.9 ‘West Melton and Hororata Airfields’, to read as follows:

*West Melton Airfield and Hororata Domain*

*The building complies with the maximum height requirements in the approach paths to the runways at West Melton Airfield and Hororata Domain, as shown in Appendix 19.*

*For Rule 1.9, the maximum height of any building is measured from ground level at the base of the building, to the highest point on the building. It includes any chimney, aerial,*

*mast, satellite dish or other structure which is attached to and protrudes above the roof height of the building.*

9. Amend, Part 3, Rule V – Utilities, 5.9 ‘West Melton and Hororata Airfields – Utility Buildings and Utility Structures’, to read as follows:

5.9            *West Melton Airfield and Hororata Domain – Utility Buildings and Utility Structures Utility Buildings – Permitted Activities*

5.9.1        *The building complies with the maximum height requirements in the approach paths to the runways at West Melton Airfield and Hororata Domain, as shown in Appendix 19.*

*For Rule 5.9.1, the maximum height of any building is measured from ground level at the base of the building, to the highest point on the building. It includes any chimney, aerial, mast, satellite dish or other structure which is attached to and protrudes above the roof height of the building.*

*Utility Buildings – Other Activities*

5.9.2        *Erecting any building or any part of any building, which will protrude into the height restricted areas shown in Appendix 19 shall be a non-complying activity.*

*Utility Structures – Permitted Activities*

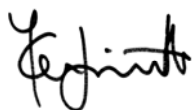
5.9.3        *Any utility structure does not exceed the height requirements in the approach paths to the runways at West Melton Airfield and Hororata Domain, as shown in Appendix 19;*

*Utility Structures – Other Activities*

5.9.4        *Any utility structure which protrudes into the height restricted areas shown in Appendix 19 shall be a non-complying activity.*

I further recommend that the Selwyn District Council accept or reject the various submissions made to Variation 27 as set out in the schedule contained within attached **Appendix B**.

**Ken Gimblett as Commissioner:**

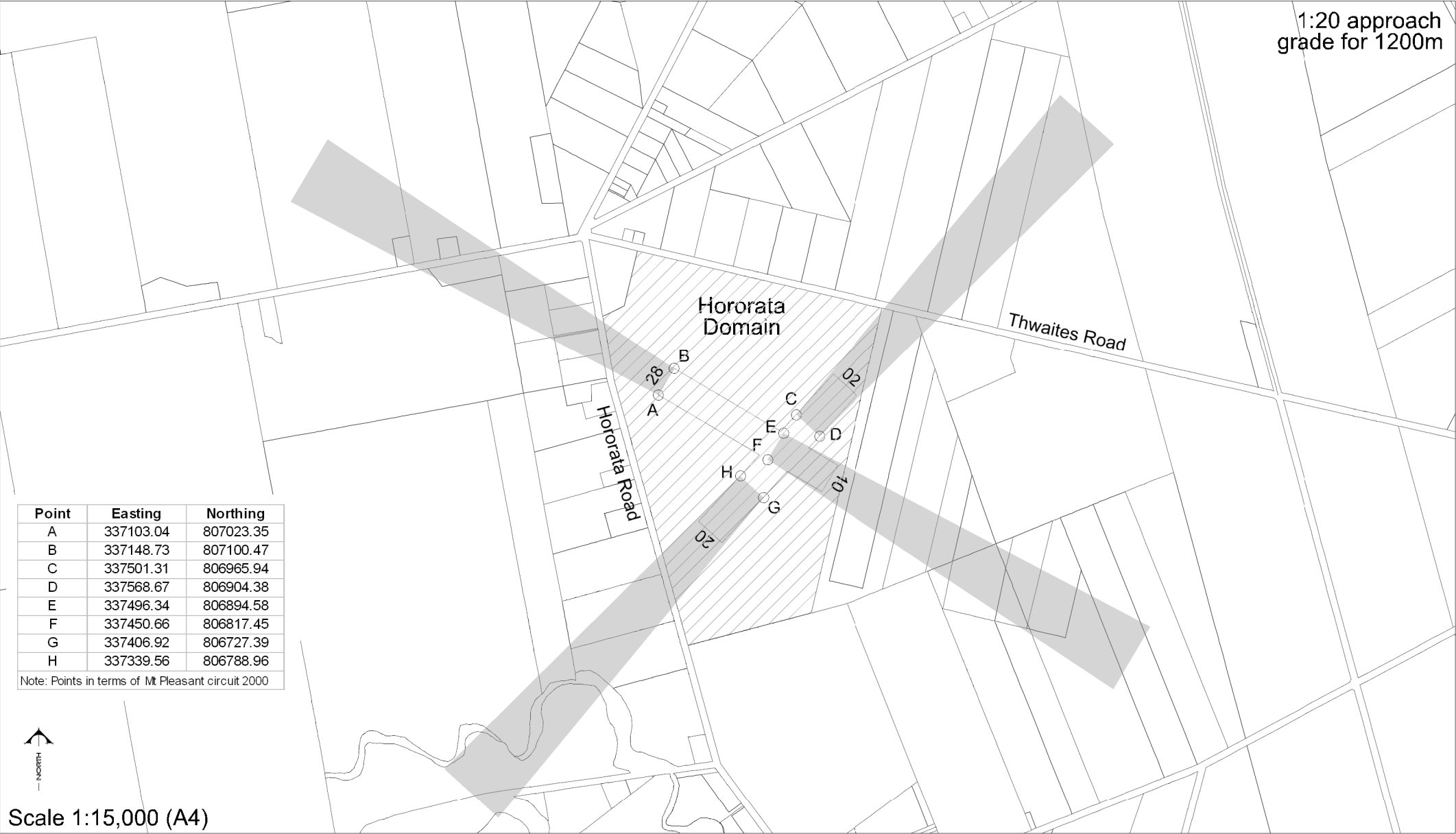


**Date:** 8<sup>th</sup> February 2008

## **APPENDIX A: GRAPHICS FOR INCLUSION IN DISTRICT PLAN APPENDIX 19**

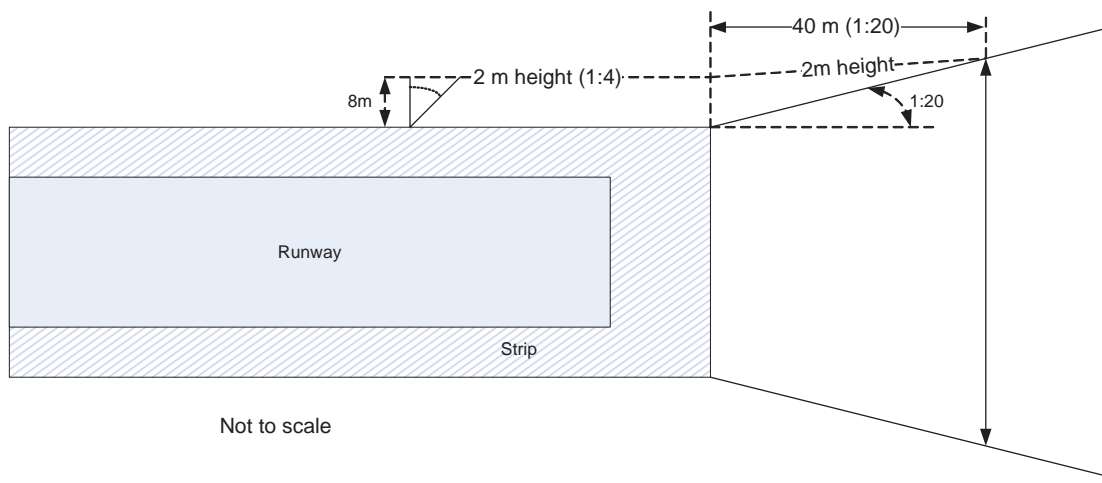
- 1. Replacement plan indicating Hororata Domain approach/take-off paths.**
- 2. Illustration showing Transitional Side Surfaces.**
- 3. Illustration showing how maximum height is to be determined relative to ground level.**

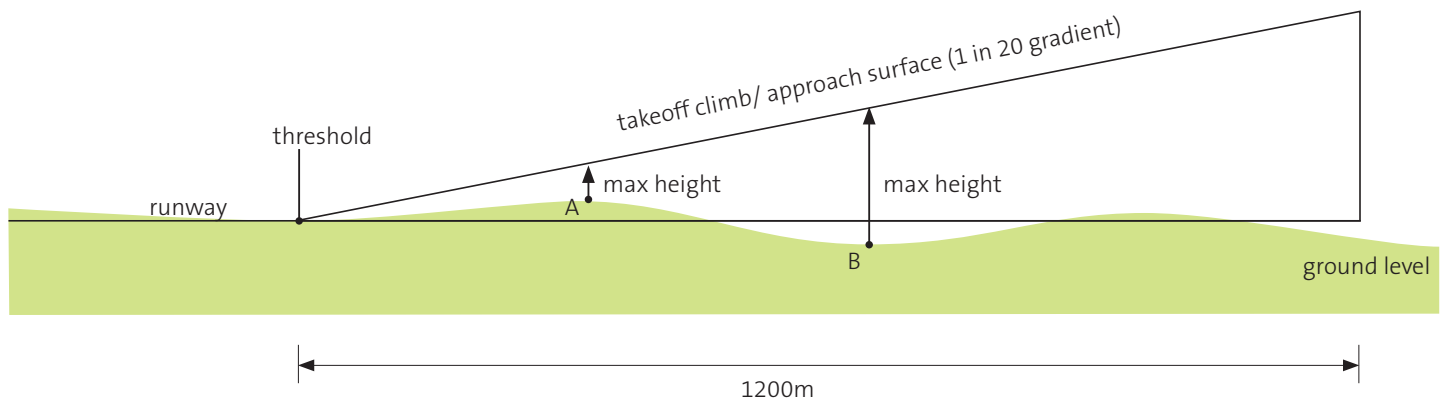
# APPENDIX 19 - HEIGHT LIMITS FOR WEST MELTON AIRFIELD AND HORORATA DOMAIN



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### Transitional Side Surfaces.







## APPENDIX B: SUMMARY OF DECISIONS

Consistent with my conclusions / recommendations on the Variation, the following schedule records my recommendations in respect of the requests made by submitters. Submission numbering is consistent with referencing in the Council's summary of submissions and the Council's section 42A report on the Variation prepared by Mr Boyes.

I note that while my recommendations are to reject the majority of submissions based on the specific relief those submissions sought, a consequence of my recommendations is that for much of the land affected by the height restriction rules, the degree of restriction is **reduced** compared with the Proposed District Plan and Variation 27 as notified, and critical obstructions that exist under the approach/take-off paths are able to be avoided.

Submission number	Submitter	Submission point	Decision
97	Jennifer Wynn Studholme	97.1	Reject
98	Canterbury Gliding Club Inc	98.1	Accept in part
104	Brian Arnold Fineran	104.1	Reject
		104.2	Reject
		104.3	Reject
105	Robert James Wilson	105.1	Reject
		105.2	Reject
106	Paul Stevenson Ross	106.1	Reject
		106.2	Reject
		106.3	Reject
107	Hororata Concerned Citizens Society	107.1	Reject
		107.2	Reject
		107.3	Reject
108	Vanessa Murray	108.1	Reject
109	Kelvin Arthur Kimber	109.1	Reject
		109.2	Reject
		109.3	Reject
110	Janet and Stephen Harris	110.1	Reject
		110.2	Reject
		110.3	Reject
111	Gregory Arthur Bluck and Anne Elizabeth Bluck	111.1	Reject
		111.2	Reject
		111.3	Reject
112	Douglas Charles Oliver and Vicki Anne Ruth Oliver	112.1	Reject
		112.2	Reject
		112.3	Reject
113	Margaret ML Eade, Thomas J Eade, and Marion M Turner	113.1	Reject
		113.2	Reject
		113.3	Reject
114	David Andrew Oliver	114.1	Reject
		114.2	Reject
		114.3	Reject
115	Kelvyn and Janice Buckingham	115.1	Reject
		115.2	Reject
		115.3	Reject
116	Kathryn and Brendan Doherty	116.1	Reject
		116.2	Reject
		116.3	Reject
117	Henry Channon Studholme and Jennifer Wynn Studholme	117.1	Reject
		117.2	Reject
		117.3	Reject

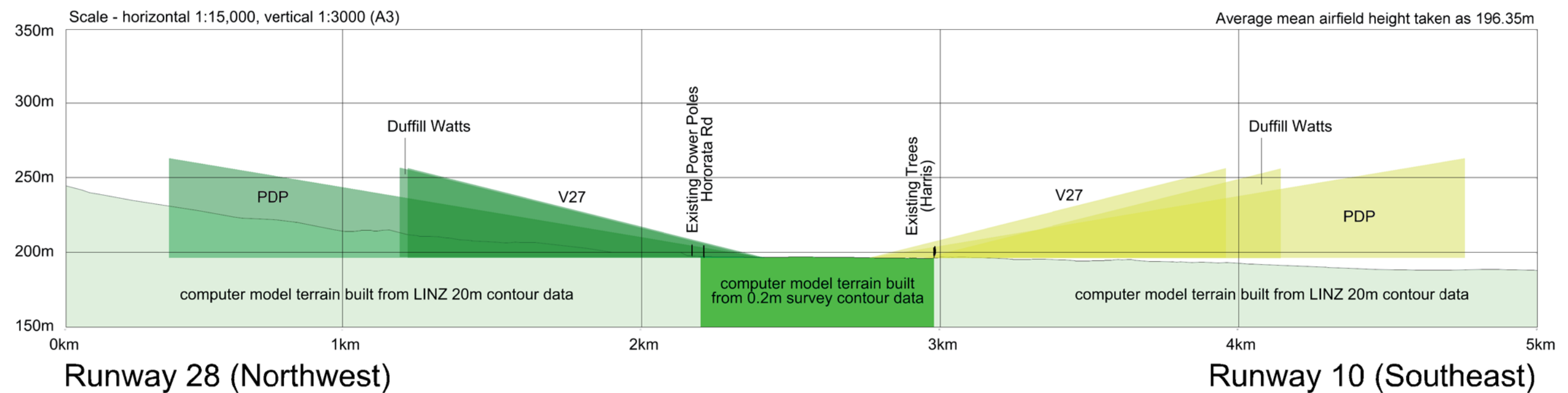
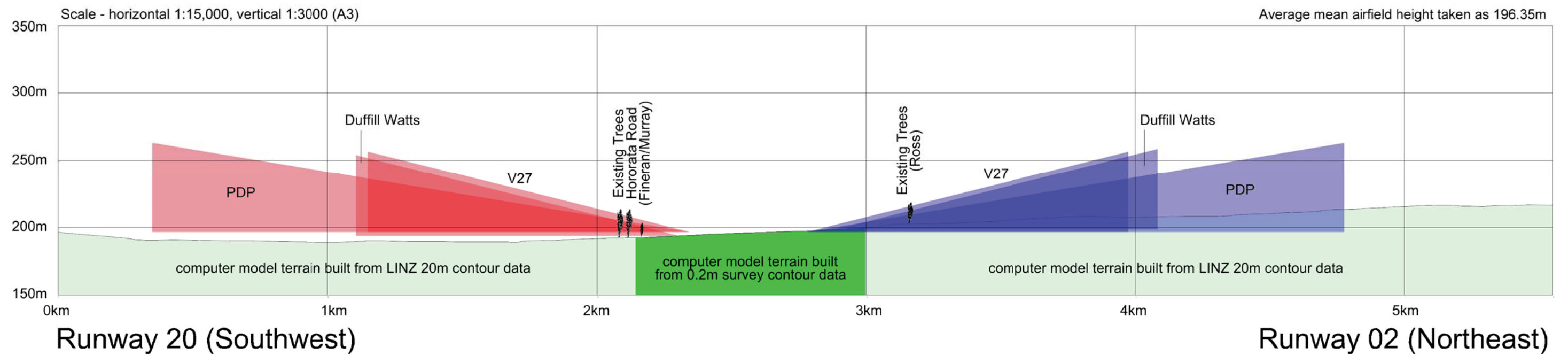
## **APPENDIX C: EXPLANATORY GRAPHICS IN SUPPORT OF COMMISSIONER RECOMMENDATIONS**

**Figure 1: Proposed District Plan, Variation 27 & Duffill Watts Take-off Climb/Approach Surfaces (comparison of elevations).**

**Figure 2: "Runway Approach / Take-off Surface Obstacle Survey – Plan View" – reproduced from Duffill Watts Consulting Group Report, October 2007, (Report Ref: 303523-rpt071025.doc).**

**Figure 3: Recommended Approach / Take-off Climb Surfaces (elevations).**

**Figure 4: Commissioners Recommendation – Perspective View.**



## Hororata Domain

FIGURE 1 - PROPOSED DISTRICT PLAN, VARIATION 27 & DUFFILL WATTS TAKE-OFF CLIMB/APPROACH SURFACES

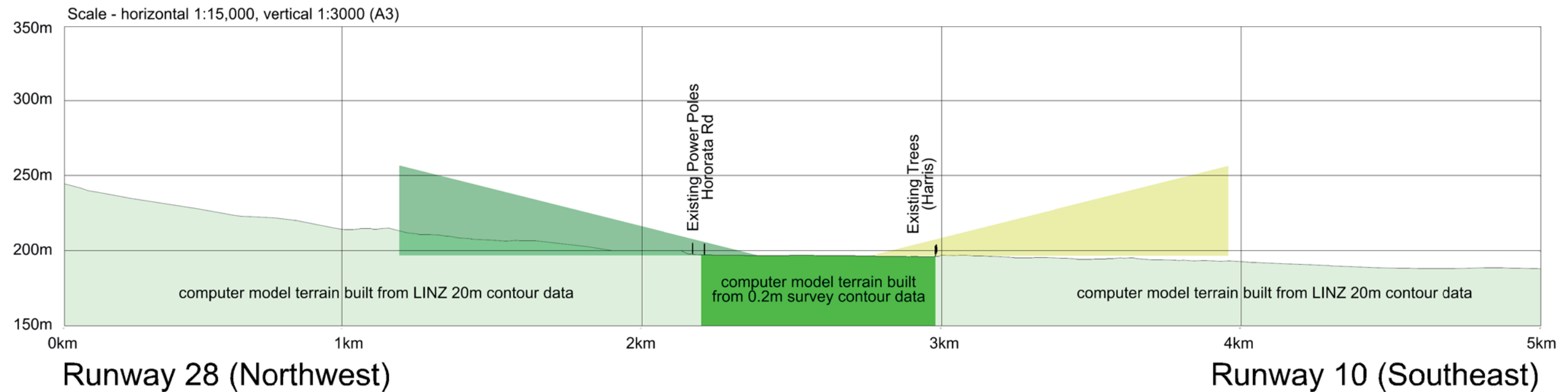
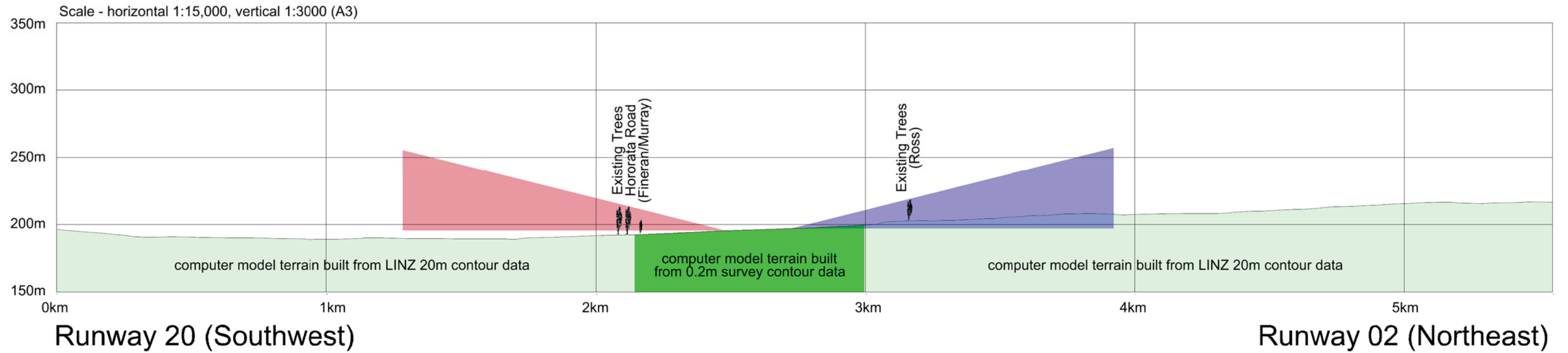
8 February 2008

contact: gary.white@boffamiskell.co.nz  
ref: C07090\_sections\_lc\_r1.dgn  
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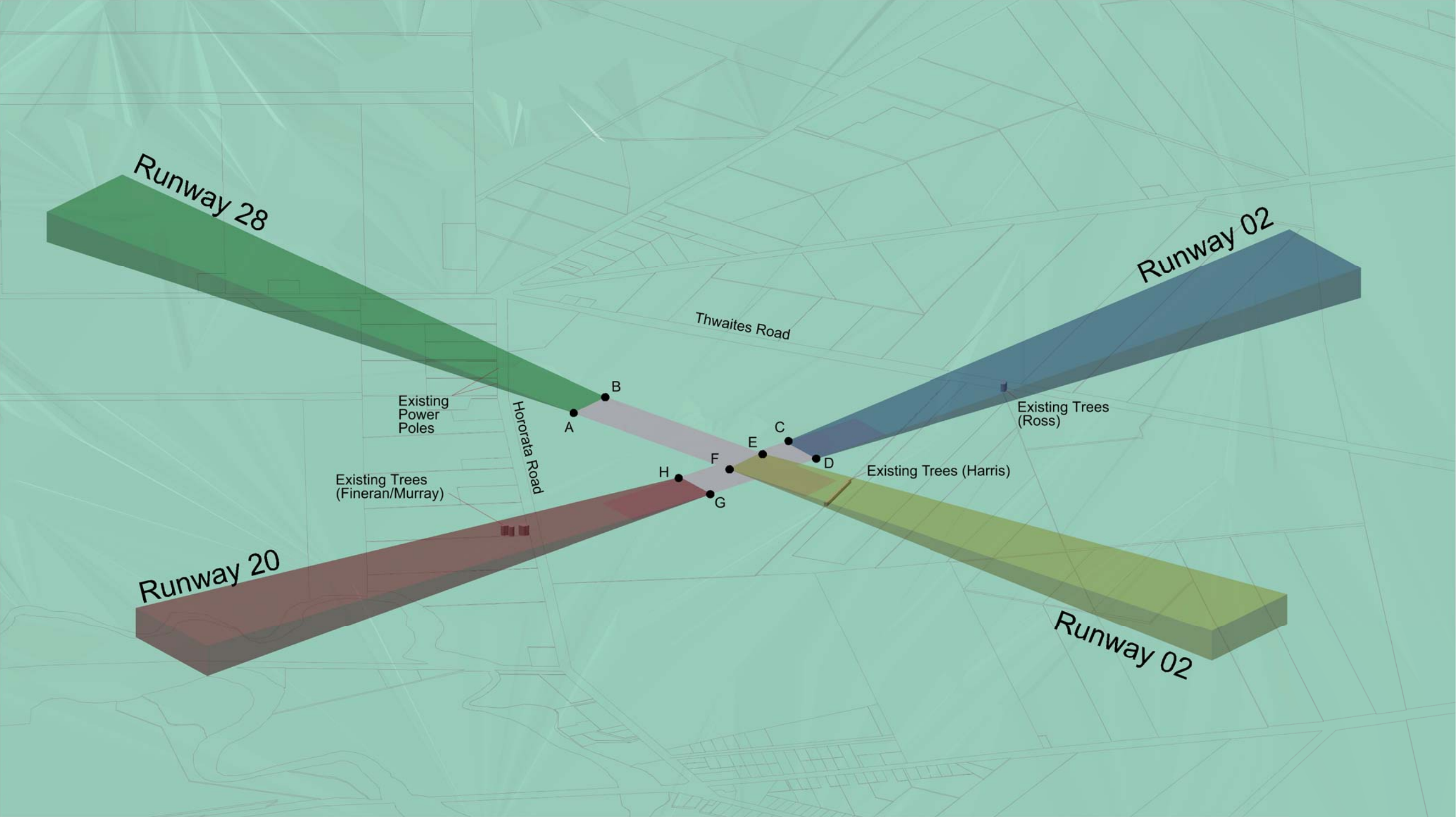








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Point	Easting	Northing
A	337103.04	807023.35
B	337148.73	807100.47
C	337501.31	806965.94
D	337568.67	806904.38
E	337496.34	806894.58
F	337450.66	806817.45
G	337406.92	806727.39
H	337339.56	806788.96

Note: Points in terms of Mt Pleasant circuit 2000