

IN THE MATTER OF

The Resource Management Act 1991

AND

IN THE MATTER OF

Notices of requirement for designations under section 168 of the Act, in relation to Te Ahu a Turanga; Manawatū Tararua Highway Project

BY

NEW ZEALAND TRANSPORT AGENCY
Requiring Authority

**STATEMENT OF EVIDENCE OF LONNIE WILLIAM D'WAYNE DALZELL
(PROJECT MANAGER) ON BEHALF OF
THE NEW ZEALAND TRANSPORT AGENCY**

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INTRODUCTION

1. My full name is **Lonnie William D'Wayne Dalzell**.
2. I work at the New Zealand Transport Agency ("**Transport Agency**") and am the Project Manager for the Te Ahu a Turanga; Manawatū Tararua Highway Project ("**the Project**").
3. While I am not giving expert evidence, for completeness I have the following qualifications and experience relevant to my evidence:
 - (a) I hold a Bachelor of Surveying (Credit) from the University of Otago (2003).
 - (b) I have worked as a Project Manager (or Similar role) on a number of large projects since 2006, including:
 - (i) this Project;
 - (ii) Ōtaki to north of Levin State highway project;
 - (iii) Transmission Gully State highway project;
 - (iv) Macraes Gold Mine Phase III Expansion; and
 - (v) Waitaki District Council Roding Maintenance.
4. My evidence is given in support of the notices of requirement ("**NoRs**") lodged by the Transport Agency for the Project. I confirm that I am authorised to give this evidence on behalf of the Transport Agency.

BACKGROUND AND ROLE

5. I am part of a large Transport Agency team working to deliver the Project, and am one of a number of Transport Agency witnesses providing evidence in support of the NoRs.
6. **Sarah Downs** is the Portfolio Manager Design: Developing Regions, and is the manager responsible for delivering the Project. Her evidence explains the background to the Project, which responds to a long history of issues with the route of State Highway 3 through the Manawatū Gorge, culminating in the significant slips that closed the road indefinitely in April 2017.
7. **Jonathan Kennett** is also giving evidence in respect of the request by submitters for a separate walking and cycling path to be included as part of

the Project. **Mr Kennett** also discusses other routes used for cycling around the region.

8. I was appointed as the Project Manager for the Project in January 2018. **Scott Wickman** was my predecessor in the Project Manager role, and he summarises in his evidence the work carried out by the Transport Agency to assess the ongoing viability of the Gorge route, develop a range of alternative options for a replacement route, and evaluate those options.
9. I have since overseen the team of designers and experts who have considered, investigated and refined the route option selected by the Transport Agency, which has led to the lodgement of the NoRs. As well as technical inputs, this has involved a large, sustained effort of engaging and sharing ideas and information with tangata whenua, landowners, relevant Councils, and other stakeholders, and I have been personally involved in many of those hui, meetings, workshops, and other discussions, some of which are noted in my evidence below.

PURPOSE AND SCOPE OF EVIDENCE

10. The purpose of my evidence is to summarise the development of the Project to date, with a particular focus on the engagement carried out by the Transport Agency with landowners, key stakeholders and the general public, and our partnership with tangata whenua. My evidence addresses:
 - (a) the Transport Agency's intended programme for delivery of the Project, and the goal of opening the new road as quickly as possible;
 - (b) the Resource Management Act 1991 ("**RMA**") processes being followed to achieve that outcome;
 - (c) the Transport Agency's approach to undertaking engagement, the wide-ranging engagement processes undertaken by the Transport Agency, and how those discussions have shaped the boundaries of the proposed designation and the Project more generally;
 - (d) the Transport Agency's property acquisition programme for the Project;
 - (e) a response to submissions, as relevant to my evidence; and
 - (f) a response to the Section 42A Reports.

EXECUTIVE SUMMARY

11. The Transport Agency team is working hard to deliver a hugely beneficial Project for local people, and we are trying to do so as quickly as possible without compromising on quality. I am very grateful to our tangata whenua partners and other organisations and individuals who have been engaging with the Transport Agency and supporting us in this endeavour.
12. The RMA consenting pathway the Transport Agency has adopted reflects the urgency of the problems that we are trying to address.
13. That urgency has also influenced the Transport Agency's engagement with its iwi partners and stakeholders, where sharing knowledge, identifying and addressing issues early, and collaboration have been key principles. The Transport Agency team is continuing to work hard to address issues raised by submitters and others, and narrow the matters that need to be traversed at the upcoming hearing.
14. Land acquisition for the Project is on a critical path, and my evidence summarises the Public Works Act 1981 ("**PWA**") processes that the Transport Agency is working through with affected landowners. Effects on landowners will be compensated for by the Crown under the PWA regime.

THE INTENDED PROGRAMME FOR THE PROJECT

15. As **Ms Downs** discusses her evidence, the Project is being developed to re-establish a key strategic transport and freight link that supports the needs of people in Manawatū and Tararua, and beyond, and the economies of central New Zealand.
16. The urgent need to reinstate the severed State Highway 3 ("**SH3**") link has been made very clear to me, ever since I first became involved in the Project, by members of the affected communities, Council representatives, and almost all other stakeholders. The urgency of the Project has been a theme underlying all public engagement in which I have been involved, and the Transport Agency has embraced the challenge of creating a new high-quality link as quickly as possible.
17. To give one example, I have witnessed the urgent need for the road during engagement in Dannevirke where the real impact of the Gorge closure has been felt. One family told of having a tank of fuel last 3.5 instead of 5 days,

while others have left employment due to their safety fears of going over Saddle Road.

18. Given the importance of the Project for the people living in the affected communities, and for the proper functioning of the transport network, the Transport Agency has set itself an ambitious programme within which to deliver the Project, and is working hard to achieve those timeframes whilst maintaining a robust process. The current programme provides for main construction works for the Project to commence next year, in 2020, and for construction of the road to be completed by 2024.
19. For the communities affected by the closure of the Gorge road, people have told me that 2024 seems like a long time to wait for a fit-for-purpose connection to be reinstated across the Ruahine Ranges. Many believe even the compressed programme the Transport Agency has developed is too long.
20. I have been able to re-assure most people that even though there is considerable work involved in designing and constructing an infrastructure development of this scale, the Transport Agency is committed to achieving the programme. However, that requires a concerted effort throughout and from all people involved – the Transport Agency, Councils and community.
21. As well as the need to move as quickly as possible, it is of course also imperative that the Project is designed and built to a high standard. Not only must the Project meet relevant State highway design criteria and provide a safe, modern, and resilient connection, but it is also essential that we appropriately address the Project's potential adverse effects on the environment, landowners, and local communities.
22. The Transport Agency will keep collaborating closely with landowners, the Councils, our iwi Project partners, and others as the design of the Project takes shape, so delivering the Project on or ahead of time will depend in part on the continued support of many people and entities. Nonetheless, the Transport Agency will task the 'alliance' of organisations designing and constructing the Project (discussed further below) with implementing a high-quality Project as soon as possible, and with actively exploring potential innovations that may be able to bring forward the milestone of 'Project opening' even further.
23. To enable the current programme to be achieved my team has had to think outside of normal practice, and is required to undertake three tasks;

consenting, procurement and land acquisition, in parallel. In a less time-pressured situation these tasks would have been done more sequentially. An innovative approach to RMA approvals has also been followed; splitting designation and regional consenting. Though this is not new, designations and resource consents are often applied for together. The sequence followed for the Project is an important part of allowing us to achieve an 18-month programme for the pre-construction phase instead of 3-4 years.

24. This has required the Transport Agency to absorb a higher level of risk and uncertainty to enable the Project to meet the expectations of communities, stakeholders and local Councils, who want it built as fast as possible.
25. From the very first round of scoping workshops we held with Councils and stakeholders, I was inspired by the combined vision of everyone involved, no matter their area of expertise and knowledge. The Project vision was about 're-connection'; that is east-west, tangata whenua to the whenua and awa, and Ashhurst to Woodville. Everyone wanted to 'enhance' by building on what was already there, include the features that define the area. I always look back on those workshops whenever I am discussing mitigation, design matters or submissions. We all must remember why the Project is required and who the Project is for.

THE RMA 'CONSENTING PATHWAY' ADOPTED FOR THE PROJECT

NoRs preceding resource consents and outline plans

26. The key consideration for the Transport Agency in choosing the appropriate consenting process has been evaluating time against risk. The pathway selected for seeking the necessary permissions for the Project under the RMA is explained briefly below.
27. To date, the Transport Agency has lodged three NoRs for designations over land within Palmerston North City, Manawatū District and Tararua District, in order to enable the Project.¹ The NoRs were lodged with the relevant territorial authorities, namely Palmerston North City Council ("**PNCC**"), Manawatū District Council ("**MDC**") and Tararua District Council ("**TDC**") on 2 November 2018, and publicly notified on 13 November 2018.
28. The Transport Agency is currently working to procure an alliance that will undertake the detailed design of the Project, and will then:

¹ The extent of each designation is shown on the drawings in Volume 4 of the Assessment of Environmental Effects ("**AEE**"), including drawings C1 and LR00 – LR10.

- (a) seek the necessary resource consents from Manawatū-Whanganui Regional Council (“**Horizons**”) to construct the Project, such as consents for enabling works, bulk earthworks, works in water courses, and discharges to water; and
 - (b) lodge outline plans with PNCC, MDC, and TDC under section 176A of the RMA.
- 29. As such, the NoRs represent the first stage of ‘consenting’ for the Project, with the Transport Agency identifying, through the NoRs, a designation corridor within which a yet-to-be-designed road can be constructed, operated and maintained.
- 30. The conditions imposed on the designations will provide the parameters within which the subsequent design of the Project must be undertaken. The updated conditions proposed by the Transport Agency are discussed in the evidence of **Ainsley McLeod**. These parameters respond to environmental and site constraints and are intended to ensure that actual or potential adverse effects of the Project are appropriately managed, and that a high degree of community and stakeholder engagement will continue over the life of the Project.
- 31. Again, once the design of the Project has been progressed to a sufficient level of detail, the resource consents that are required from Horizons will be sought. It is possible that resource consents for enabling works may be sought separately.
- 32. Outline plans will also be lodged around the same time. Section 176A of the RMA sets out the process that the Transport Agency, as a requiring authority, must follow in order to progress a work enabled by a designation. The process involves the requiring authority submitting an outline plan or plans to a council. The council then reviews and can request changes to the detailed design and construction methodology, among other things. A requiring authority can submit one or more outline plans to reflect project phases or construction sequencing.
- 33. An outline plan has to detail the following information:
 - (a) the height, shape, and bulk of the works;
 - (b) the location on the site of the works;

- (c) the likely finished contour of the site;
 - (d) the vehicular access, circulation, and the provision for parking;
 - (e) the landscaping proposed; and
 - (f) any other matters to avoid, remedy, or mitigate any adverse effects on the environment.
34. This means that the outline plans for the Project will have to demonstrate and explain how the Project meets the conditions of the designations. The outline plans will also include specific information that is required by the designation conditions, including the suite of management plans and details of further engagement with various parties. The outline plans will also include a communications plan and accidental discovery protocol (for any archaeological sites that may be encountered).
35. In this way, the outline plans will contain comprehensive information to confirm the specific details about how any potential effects are to be mitigated. This information will be assembled once design has progressed and a construction methodology has been finalised. The details within any outline plan will (and must) address the actual or potential effects of the works and how they will be mitigated.
36. The outline plans may be submitted in parallel with (or follow) the more comprehensive applications for resource consent.

Other ‘consenting pathway’ options not followed

37. The RMA provides a number of different process options for obtaining the necessary consents and other approvals for a proposal. In the case of the Project, a relatively wide range of options are available given that the Transport Agency is a requiring authority and the Project is a major proposal of national significance.
38. Some of those other process options would have required a more detailed design of the Project to be carried out before any applications were lodged, including the Transport Agency:
- (a) lodging resource consent applications and NoRs at the same time, for consideration by the territorial authorities and Horizons;

- (b) lodging consent applications and NoRs and asking that they be referred directly to the Environment Court, thus bypassing a Council-level hearing;
 - (c) lodging the applications and NoRs with the Environmental Protection Authority (or asking the Minister for the Environment to 'call them in'), and having them considered by a Board of Inquiry within a defined timeframe; and/or
 - (d) providing the design details required in an outline plan when the NoRs are first lodged, and seeking a waiver of the requirement to provide them later on.
39. There are a number of reasons why the Transport Agency has not opted to use these consenting pathways for the Project. They all relate back to the Transport Agency's overall goal of enabling the Project to be constructed over the most efficient timeframe and in a manner that addresses the urgent need for a safe, efficient, and resilient route across the Ruahine Ranges to replace the closed Manawatū Gorge route.
40. First, the Transport Agency is seeking to secure the designation corridor first so it can clearly identify the land that will be required for the Project as early as possible. This means that the Transport Agency can engage formally with affected landowners at an early stage, and bring forward discussions about land acquisition (which can take some time to conclude). This also gives landowners more certainty, earlier, as to the future of their land, and brings into play the safeguards in the RMA for landowners whose land is subject to a designation.
41. Other benefits for the Transport Agency arise because lodging notices of requirement protects the designated corridor from other development that would be inconsistent with the Project.
42. In the Transport Agency's experience, efficiencies are also achieved by having the same organisation(s) – in this case, an alliance – undertake the detailed design of the Project, obtain the resource consents and lodge the outline plans, and then construct the Project.
43. Often construction contracts are only let once the RMA consenting phase has been completed. In some roading projects, the procurement of construction contractors has brought about a re-think in terms of design, which has led to design changes and the need for designations to be altered and different or

additional resource consents to be obtained, which has added considerable time to the overall programme. The Peka Peka to North Ōtaki Expressway Project, for example, was originally consented in February 2014, and the constructors are still seeking resource consents relating to altered aspects of the design.

44. In the case of this Project, the contractors responsible for its eventual construction will themselves be undertaking the detailed design, ensuring that the design and consenting processes will need to be completed only once.
45. I can explain these matters in more detail if they are of interest to the Hearing Panel, but the Transport Agency is using a 'hybrid alliance' model for procuring the Project designers and constructors, which is a model that can be used (and is being used in this case) to place more emphasis than there would otherwise be on social outcomes, valuing innovation in design, and further engagement with communities and stakeholders.
46. The consenting pathway and procurement model adopted by the Transport Agency also aligns well with the collaborative approach we have taken to developing the Project, which I discuss further below. The Transport Agency is committed to delivering a Project that reflects a high level of input from the affected communities, tangata whenua, and local stakeholders. Council-level hearings tend to encourage public participation and give local authorities a central role in making recommendations or decisions about the Project. Conversely, a Board of Inquiry process or direct referral to the Environment Court would take decision-making away from the local sphere and could risk creating separation and distance between the Transport Agency and its Project partners and stakeholders.
47. It remains to be seen whether the consenting pathway chosen ultimately proves to be faster than the other available options might have; this will partly depend on third parties and whether they are prepared to support the Transport Agency in its endeavours to deliver a high-quality Project as quickly as possible. Nonetheless, the Transport Agency will do everything in its power to bring the Project to fruition as quickly as possible, on or ahead of the challenging schedule we have set.

THE TRANSPORT AGENCY'S APPROACH TO ENGAGEMENT AND CONSULTATION

Introduction

48. As the Project Manager, I have been responsible (since January/February 2018) for the Transport Agency's programme of landowners, key stakeholders, and the public generally.² I have also been responsible, on the Transport Agency's part, for progressing the partnerships with tangata whenua.
49. Genuine and robust engagement is always vital in including everyone on the project journey, and to obtain important information necessary to develop large-scale infrastructure proposals. It has been particularly important for this Project, because of the urgency and the high level of expectations. In order to move forward rapidly, the Transport Agency has been proactive in communicating with stakeholders, seeking input from the beginning into the design and technical assessment work, developing and testing ideas, and seeking to bring to light, and address, potential issues at an early stage. We have also engaged a team of expert and other advisors who have experience in collaborative processes and a proven track record in working with councils and others to deliver high-quality infrastructure.
50. The engagement processes have required considerable effort from the Transport Agency team, and have relied on tangata whenua, the Councils, landowners, and stakeholders themselves dedicating their resources to our engagement processes. The Transport Agency is grateful for the central role that those people and organisations have been prepared to play (and will continue to play) in the development of the Project.
51. Overall, I consider that the work carried out by the Project team in engaging with stakeholders and the wider public translates, in RMA terms, to high-quality consultation with potentially affected parties and the wider community, and to a best-practice approach to developing partnerships with tangata whenua.
52. Part F of the AEE accompanying the NoRs summarises the principles underpinning the Transport Agency's engagement practices in relation to the Project, and the various stages in which engagement has progressed. In this section of my evidence I comment on those processes from my perspective

² Section 7 of the AEE provides an overview of that programme.

as Project Manager, and provide an update on engagement undertaken with landowners, the Councils, and other stakeholders, since the AEE was lodged in November 2018, and on our partnerships with tangata whenua.

Partnering with tangata whenua

53. The Transport Agency recognises the importance of partnering with iwi in developing large roading proposals, and it has been my privilege to play a leading role in the Transport Agency's engagement with iwi in relation to this Project. The Transport Agency and iwi have been 'mahi tahi' (working together) closely since early in the Project's development, and iwi input has been integral in shaping the Project to date.
54. For me personally, I am in a privileged position in that I get to learn more about each iwi; their tāhuhu korero and whakapapa, and to be invited to wāhi tapu and marae. It has been very rewarding to work with iwi representatives towards mutual goals of promoting partnering and further developing the relationships between the Transport Agency and iwi. The cultural landscape in Manawatū and Tararua is complex and at times can be challenging. However, we all witness the opportunity to 're-connect', develop strong relationships, and build capabilities and resource. Crown-Māori relationships in the regions continue to develop through projects like this and through the ongoing process of settling historical claims relating to Crown breaches of the Treaty of Waitangi / Te Tiriti o Waitangi.
55. Specifically in relation to the Project, too, there is still work to be done to ensure that the design and construction of the new road appropriately respects and celebrates the cultural landscape through which it will pass, that other adverse effects on Māori values are addressed, and that opportunities for iwi are realised. Clearly the Ruahine Ranges are an area rich in cultural history and values, and minimising adverse effects on those values will be a key focus through the detailed design and construction phases.
56. Consistent with our partnering approach, the Transport Agency has been very open about the processes and information relating to the Project, and has facilitated many visits to the site, and iwi have been generous in making their expertise and time available to guide the Transport Agency on those matters. In other words, the Transport Agency has sought to involve iwi as partners in the development of the Project, and has sought to operate in a manner that is respectful of tikanga and that ensures Māori who identify with

the area have the ability to express their views, if they wish to do so, through the RMA statutory processes.

57. In the meantime, discussions with iwi about the Project have generally been positive, and I believe there is a good level of confidence that the Project is heading in the right direction and that adverse effects on cultural values will be appropriately addressed. The corridor chosen for the Project avoids known specific sites advised to the Transport Agency, and a clearer and clearer picture is being built up over time of how the Project's effects on other values held by tangata whenua in the area can be appropriately addressed through the detailed design (as discussed further in the evidence of **Ainsley McLeod** regarding conditions).
58. The degree of trust and confidence that has been built up is reflected in the fact that iwi have decided to provide evidence as part of the Project team and have not made separate submissions in respect of the NoRs, and no other submitter has raised any specific concerns about effects on cultural values.
59. The Transport Agency is grateful for the support of Rangitāne o Manawatū, Rangitāne o Tamaki nui-ā-Rua, Ngāti Kahungunu ki Tāmaki nui-ā-Rua, and Ngāti Raukawa for the leadership that is being shown in helping to deliver a Project that will have significant benefits for all people in the Manawatū and Tararua regions, and beyond – Māori and Pākeha alike.
60. The Transport Agency has also been working closely with the recently-appointed trustees of the Te Āpiti Ahu Whenua Trust, who are the legal owners (and representatives of the beneficial owners) of Parahaki (or Moutere) Island at the western end of the Manawatū Gorge. The new bridge crossing of the Manawatū River will pass close to the island, and a pier is likely to be located on the rocky beach (alluvial gravel fan) near the eastern-most part of the island. Discussions are continuing about the bridge design and the construction process, as well as potential opportunities for the owners to achieve better access, educate on the history of the island and uphold the mana of their land.

Engagement with landowners

Introduction

61. The Transport Agency has prioritised early engagement with affected landowners, and later in my evidence I summarise the legal processes being worked through for the Crown to acquire private land interests for the Project.

For a development of this size, the Project affects relatively few landowners – 11 in all, including 7 private individuals or families, Meridian Energy Limited (“**Meridian**”), AgResearch Limited (“**AgResearch**”), TDC, and the Crown.

62. The Transport Agency acknowledges that the land acquisition process can be difficult for landowners, notwithstanding the full monetary compensation paid under the PWA. Discussions with some of the landowners have explored the possibility of the Crown acquiring all of the owners’ interests, and others have related to a partial purchase of the area directly required for the Project.
63. In the latter case, the Transport Agency has sought to work with landowners on plans and measures to minimise effects on the ongoing use of that land. Below I briefly discuss some of the issues being worked through with landowners.

Meridian

64. Before the route of the Project was chosen, and following the identification of the Short List of options, a series of meetings was held with Meridian, with the purpose of sharing preliminary design information to better understand the effects of the various route options on the Te Āpiti Wind Farm.
65. Following the selection of the preferred Option (corridor), the Transport Agency has been working further with Meridian to understand the operational requirements of the wind farm and how the Project can be constructed in a way that minimises effects on those operations. Regular meetings have been held with Meridian to discuss these matters, including in respect of:
 - (a) Potential loss of turbines – there is one turbine (or potentially two) affected by the indicative alignment of the Project, and nine in total within the proposed designation (although most are included to ensure that works to reinstate access tracks to the turbines are enabled by the designation).
 - (b) Maintaining access to all other turbines and enabling ongoing function of the wind farm throughout the construction phase have been key areas of discussion. The Transport Agency will reinstate accesses, including via underpasses beneath the new road, and reinstate any cabling affected by Project works.

- (c) Potential effects on wind flow and the power output of the wind farm – in this regard, the Transport Agency has agreed not to plant the trees required to offset adverse ecological effects on wind farm land.
 - (d) Constraining future development of the wind farm – the Te Āpiti Wind Farm is one of New Zealand’s oldest, having been constructed in 2004. At some point in the future the wind farm may be ‘repowered’, which would involve reconfiguring the wind farm to incorporate new turbines.
66. Compensation under the PWA will be paid in relation to all of these effects, to the extent they cannot be avoided through detailed design.

AgResearch

67. As **Scott Wickman** discusses in his evidence, early on in the Project development process it became apparent that the Project would affect a long-term fertiliser research trial site on the Ballantrae Farm, owned by AgResearch.
68. Numerous meetings have been held with AgResearch in order to understand better the potential effects of the Project on the trial site (both during construction, and beyond), and potential ways in which the Transport Agency could minimise and otherwise address those effects, including through measures designed to further scientific knowledge in relation to the site (potentially beyond what could be expected if the Project did not affect the site). **Dr David Horne** and **Jeff Morton** discuss those matters in detail in their evidence, including a context where relatively little research effort has been expended in relation to the trial over the last 30 years.
69. As a result of this engagement the proposed designation corridor across the farm has been reduced in width and access is provided via an underpass. The indicative construction footprint is significantly smaller than the (narrowed) designation corridor through the farm, and this will be finalised during detailed design. Following on from the analysis carried out by **Dr Horne** and **Mr Morton**, updated conditions are intended to prompt detailed consideration of the relationship between the final construction footprint and the field trial site, recognising the importance of minimising direct impacts on it.
70. I note that the farm had been slated for sale by AgResearch between 2010 and 2014, given a decrease in science needs relating to the site over the preceding decades. In that respect, I attach as **Attachment 1** AgResearch’s

“Future Footprint Business Case”, dated 31 October 2012.³ That Business Case document identifies the sale of the Ballantrae Farm earmarked for January 2014, as part of a process of farm assets being “*rationalised through disposal of surplus capacity.*” Ultimately the sale of the site did not proceed.

71. Adding to the uncertainty about the site is that, in my discussions with AgResearch and its stakeholders, I have not seen any evidence of a long-term strategic plan for the current trial or facility, which would assist in understanding the future research purposes intended for the facility. It appears this is mostly likely due to lack of government and industry funding for the facility. There also appears to be a split in opinion between scientists as to the level of effect the proposed corridor would have on the site. With that in mind, the Transport Agency has focused on ‘enhancing’ what is there and enabling the facility to continue research into the future.
72. Discussions are ongoing in relation to the broader package of mitigation and offset measures.
73. Again, compensation under the PWA will be payable for effects on the farm. Submissions by large companies relating to the Ballantrae Farm emphasise the economic value of the trial site; the Fertiliser Association of New Zealand attempts to put a monetary amount on that economic value (which calls into question why there is not a greater research effort at the site). To the extent that the trial itself is of financial value, I would expect that to be taken into account in the amount payable under the PWA.

Individual landowners

74. The Project has a direct effect on four farms of varying scale, and the Transport Agency has been in discussions with these landowners on land purchase options.
75. Issues raised by the private landowners concerning the Project, including matters such as access to severed areas and farm mitigation measures, are being worked through with the landowners as part of the negotiations to acquire the land for the Project. However it is the Transport Agency’s responsibility to provide access to all land.

³ And noted as having been reviewed by the Education and Science Select Committee in December 2013.

Engagement with Councils

76. The Transport Agency has sought to partner with local government and draw on officers' skills and knowledge in delivering the Project, including the three relevant territorial authorities (TDC, MDC, and PNCC), Horizons, and councils further afield.
77. Engagement has taken place at various levels, including at a leadership/governance level, between officers, and between expert advisors. In addition to the involvement at various meetings and workshops throughout the process, a Statutory Approvals Working Group was established with planning representatives from Horizons, TDC, MDC and PNCC. The purpose of this group was to draw on Council expertise to assist with identifying planning, social and environmental constraints with the options under consideration, and to understand proposed or current plan changes and land use/growth plans that might affect the Project. The Transport Agency's intention has been to work together to resolve issues early through open lines of communication.
78. From an early stage the Transport Agency recognised that few recent projects of this scale had been through council-level consenting processes in the region (it is relatively common practice for a project of this scale to be taken through the Board of Inquiry route). However, part of 're-connecting' was keeping the decision-making local. To enable the programme to be achieved in an innovative way, we sought to work together with stakeholders (and particularly Councils). We felt that approach would potentially reduce workloads, and provide ownership for the Councils (and by extension local communities), as opposed to adopting an adversarial approach.
79. There have been some differences in view along the way as to the precise nature of the transport improvements that should be delivered through the Project, but the Transport Agency looks forward to continuing to develop the Project in partnership with the Councils, and to exploring and planning for other transport proposals in future.

Engagement with other stakeholders and the broader public

80. The AEE contains a short summary of what have been thorough processes of engaging with other stakeholder entities and with members of the public. Again, these processes have been very constructive for the Transport

Agency, and the information gained through broader engagement has been important in shaping the designations now proposed.

THE TRANSPORT AGENCY'S PROPERTY ACQUISITION PROGRAMME

81. The PWA sets out the framework through which the Crown may acquire land for public works (all land must be purchased through the PWA). Through the PWA regime, compensation is paid to landowners for the value of any property acquired (and in relation to various other matters) at market rates. Any agreement between the land owner and the Transport Agency still must be approved by Land Information New Zealand.
82. In respect of the land required for the Project, the Crown will purchase and provide compensation for that land in accordance with the PWA.
83. It is the Transport Agency's preference that all property needed for the Project be acquired through mutual agreement with affected landowners (under section 17 of the PWA). To that end, the Transport Agency property acquisition programme has already commenced in earnest.
84. In all, the private land interests required for the Project impact on 11 landowners (including Meridian, AgResearch, TDC, and the Crown). Property owners whose land is required for the Project have been made aware of the extent of land required, be it either full or partial acquisition, and advised of the property acquisition programme.
85. Again, the acquisition of land is one of the critical path items for the Project. In general, unless by agreement, work cannot commence until the land is acquired.

RESPONSE TO SUBMISSIONS

86. As noted above, the Transport Agency team has sought to take a very open, collaborative approach to delivering this Project, and we have met with a wide range of people and organisations with a view to obtaining information to feed into the process, bringing issues to light at an early stage, and addressing them if possible. Against that background, it has been interesting for me to read the submissions made in respect of the NoRs.
87. I would like to express my thanks to all submitters for taking the time to submit and put their views forward. The submissions have provided further valuable insights into matters of concern to people and communities affected

by the closure of the road through the Gorge, and into people's expectations about the transport network more broadly.

88. Underpinning many of the submissions, on my reading, is an acknowledgement that there is an urgent need for the Project and an assumption that it will proceed. This accords with the feedback I have received throughout the Transport Agency's engagement processes, and the Transport Agency is grateful for that broad base of support for the Project.
89. A number of the submissions lodged were expected, because they had been signalled during engagement with the relevant organisations or individuals.
90. Less expected, perhaps, were the number and nature of the submissions seeking that the Project incorporate a separated cycling and walking path between Ashhurst and Woodville. To my knowledge this was not raised specifically as an aspiration for the Project during the early project planning and scoping workshops. Having said that potential opportunities and linking of existing cycling infrastructure was identified. **Ms Downs** and **Mr Kennett** address those matters in more detail in their evidence.
91. In any case, the Transport Agency has used the time since the close of the submission period (13 December 2018) to continue engaging with stakeholders and to reach out to other submitters, with a view to exploring the issues raised in submissions, discussing possible ways of addressing the issues raised, and honing the Project accordingly – in particular, by modifying the conditions proposed to attach to the designations, presented by **Ms McLeod**.
92. I instructed the Transport Agency's solicitors to prepare a report (the "**Pre-Hearing Meetings Report**"), in response to a direction in the Hearing Panel's first minute, summarising those meetings and the key outcomes from them. The Pre-Hearing Meetings Report was dated 1 March 2019. I confirm, on the Transport Agency's behalf, the factual information contained in it.
93. I provide some specific additional detail on discussions with some of the submitters in the context of my responses to the Hearing Panel's questions and the Section 42A Reports below.

RESPONSE TO QUESTIONS FROM THE HEARING PANEL

94. I respond below the questions from the Hearing Panel as relevant to my evidence. I have arranged the questions into groups in an effort to provide a more concise response.

Questions related to Meridian and Te Āpiti Wind Farm

If at least one wind turbine is likely to be removed, are there other locations within the Te Āpiti wind farm where they can be relocated?

Within the spoil sites, what consideration has been given to future landform to minimise effects on the Te Āpiti wind farm and by what mechanism will this be controlled?

How does the ECDF address the issues raised by Meridian Energy in relation to future land form?

Is Meridian Energy satisfied with this condition? [in reference to draft condition T1]

Should effects on the Te Āpiti wind farm be “minimised” or should they be avoided?

95. I have addressed the Transport Agency’s discussions with Meridian in my evidence above.
96. Meridian is best placed to address the question about relocation of turbines. As noted above, my understanding is that the wind farm is due to be reconfigured at some stage in the future. Our discussions with Meridian have canvassed the possibility of the Transport Agency seeking the necessary permissions and undertaking works to relocate turbines, but that is not an option being progressed.
97. The Transport Agency is continuing to work with Meridian in an effort to minimise effects on the wind farm (noting that entirely avoiding effects is not realistically possible, given the position of the designation corridor) and to address Meridian’s concerns in respect of conditions. I understand from our discussions that altering landform is likely to affect wind flows, but am not clear how material those effects might be (or whether, for example, changes in landform could even lead to some improvements in this regard).
98. **Ms McLeod** addresses the relevant conditions in her evidence, as well as the ‘avoid vs minimise’ question in terms of the National Policy Statement on Renewable Electricity Generation. **Andrew Whaley** addresses questions

relating to design of the Project and impacts on the wind farm. **Chris Bentley** addresses the specific question about the ECDF (now CEDF).

99. Again, I note that any adverse effects on the operation of the wind farm – be they related to disruption during recabling or the construction period more generally, removal of a turbine, or effects on the power output of remaining turbines in the wind farm – would be compensated for fully under the PWA.

Questions related to AgResearch and Ballantrae Hill Country Research Station

To what extent (in terms of ha and % coverage of trial sites) will the earthworks footprint impact on land actively used for fertiliser trials (as opposed to AgResearch farm land not actively used for fertiliser trials) within the Ballantrae Hill Country Research Station?

What remediation or mitigation does NZTA offer for any possible forced cessation of the long-standing fertiliser trials?

Is AgResearch satisfied with this condition? [in reference to draft condition T3 as lodged]

100. I have addressed our discussions with AgResearch in my evidence above. The Transport Agency engaged **Dr Horne** and **Mr Morton** to advise on the effects of the Project on the Ballantrae site and how best to address those effects. They address the questions related to ‘footprint impact’ and remediation and mitigation in detail in their evidence.
101. Based on AgResearch’s submission I understand that AgResearch was not satisfied with the originally proposed condition. Taking into account the advice and evidence of **Professor Horne** and **Mr Morton**, updated conditions are proposed to contain the level of ‘footprint impact’ on the Ballantrae site, and in respect of steps to mitigate and otherwise address the effects of the Project on the site. Those conditions are discussed by **Ms McLeod** in her evidence.

Questions related to the airstrip near Hope Road

Can you please clarify the situation regarding the possible relocation of the existing airstrip near Hope Road?

What remediation or mitigation is offered by NZTA in response?

Would a relocated airstrip require Civil Aviation Authority approval?

102. I have discussed the issue of the airstrip and an associated shed at some length with the landowner, Andrew Bolton, in the context of our discussions about PWA property acquisition. The Transport Agency's intention is to relocate the airstrip to another part of Mr Bolton's farm, and to reinstate the shed.

103. I understand that there are no approvals required from the Civil Aviation Authority to construct a new airstrip at a different location on Mr Bolton's property, but the Transport Agency has offered to contact the Civil Aviation Authority to work through any other relevant processes.

Question related to changes to landowner access

Which, if any, of the affected property owners have given consent to the proposed changes to their means of access?

104. No consent has been provided by any affected landowners, in the sense that the Transport Agency has not yet entered into any concluded agreements with landowners whose access is affected. As noted in my evidence above, though, I understand it is an obligation on the Transport Agency to provide alternative access. This will be the case for Stu Bolton and Tom Shannon, for example, whose accesses are affected by the designation.

105. Underpasses will also be provided to severed land parcels, as I have discussed above (in respect of AgResearch and Meridian). Farm tracks will also be reinstated as part of the PWA process.

Question related to discussions with the QEII Trust

Has any consultation been undertaken with National Trust to see if they are satisfied the effects are being suitably mitigated and they are satisfied with this condition? [in reference to condition T4]

106. The Transport Agency has consulted with representatives of the Trust, including meeting in person and other exchanges of information. Based on the Transport Agency's discussions with the Trust, I understand that its position is that it opposes any level of impact on land subject to QEII

covenants (and therefore is not satisfied with the condition). **Dr Adam Forbes** addresses effects on that land and the associated ecological values in detail in his evidence.

Question related to the Community Liaison Group

If the Liaison Group identifies “opportunities” how will these be implemented by NZTA?

107. I understand that **Ms McLeod** will address this question in her evidence. For the Transport Agency’s part, I understand that the purpose of that condition is not to enshrine a commitment to implement any specific opportunities (such as may be identified), but rather to provide a forum for a wide range of matters to be discussed and for information about opportunities to be conveyed to the Transport Agency.
108. I expect that any recommendations of the Liaison Group will be received and considered with an open mind, and responded to promptly and respectfully, in line with the engagement undertaken by the Transport Agency to date.

Questions related to cultural values

What in NZTA’s view does “cultural monitoring activities” actually entail? For example, what will actually be monitored, by whom and at what frequency? How will any “cultural monitoring” results be utilised by NZTA?

109. As I have summarised above, the Transport Agency is forging partnerships with iwi in respect of the Project, and the broad role that iwi will play in overseeing the cultural ‘safety’ and respectfulness of the Project works will reflect that. I see cultural monitoring as being much broader than monitoring works in particularly sensitive areas, overseeing works relating to any archaeological finds, monitoring stream health, and monitoring the success of plantings (using culturally-sourced seed) that will cover large areas around the Project. These are all concepts that have been discussed with iwi, however, and the Transport Agency has entered into agreements with iwi that contemplate future ‘cultural supervision’ processes.
110. The precise frequency and nature of monitoring, the data to be collected, and how it will be used to ensure that the ecological and other outcomes required by designation and resource conditions are achieved, are matters of detail to be worked through with iwi and fed into later RMA processes.
111. The contractual documents underpinning the future alliance to construct the Project provides for kaitiaki to undertake the cultural supervision and a

cultural liaison/advisor similar to a Kaiarahi role used on other projects, whose function will be to coordinate cultural monitoring works, inputs, and outputs; however, how this is structured will only be finalised during the procurement of the alliance.

112. The Hearing Panel's questions about the ECDF (now CEDF, reflecting iwi feedback) are to be answered, in a technical sense, by **Chris Bentley**.

Would it be more certain to specify [in conditions] who the relevant tangata whenua and community representatives are?

113. I have explained above the partnerships that the Transport Agency has sought to build with four iwi who have expressed interests in the Project area, and the Transport Agency has been clear about who those iwi are. **Ms McLeod** will answer this question from an expert planning perspective, but I do not know if adding names to the condition would necessarily create any further certainty than the Transport Agency has provided in its NoRs. As I noted above, the cultural landscape is a complex one, and mana whenua cannot be determined by the Transport Agency through this project; the Transport Agency is partnering with tangata whenua with a view to enabling participation and meaningful input throughout an important regional project, respecting deeply-held values and connections, building capacity, and a host of other reasons.

Questions related to ecological effects including providing for mitigation and offsets

Can you please update us regarding the other potential sites on privately-owned hill country [for offsetting]?

How is it proposed to provide mitigation planting as identified on areas outside of the NOR?

114. The Project has been progressed with a view to minimising adverse environmental effects, and the proposed designation boundaries have been set as a result of iterative processes described in **Mr Whaley's** evidence (including, for example, altering the boundaries to avoid stream habitat). Nonetheless, a variety of adverse environmental effects will of course arise, some of which will need to be offset by planting or other works on land outside the proposed designations.

115. **Dr Forbes** addresses questions related to the ecological effects of the Project in his evidence. He also provides an update on potential sites for locating offset planting.
116. As is its normal practice, the Transport Agency would seek to enter into agreements with landowners to purchase or otherwise obtain the rights necessary to provide (in accordance with the conditions) for mitigation and offset planting on land outside the designated area.

Questions related to the outline plan and resource consent process

Given our role is to consider the effects on the environment of allowing the requirement, how can we adequately do so when much of the detail for this requirement is yet to be developed within and during an outline plan process?

Given many of the expert effects assessments acknowledge and refer to the outline plan process when the details of the project including location and construction matters will be resolved what weighting can we place on those expert assessments?

Are there limits on the outline process?

Is it possible for members of the public to be involved within the development of the outline plan process, and if so, how will this occur and is this outcome provided for within conditions?

Given that relevant resource consents for this project are yet to be obtained, does a section 91 issue arise, and if so, how should that issue be dealt with?

117. I have explained in my evidence above the process the Transport Agency intends to follow in securing the necessary RMA authorisations for the process, and the rationale for adopting that process.
118. **Ms McLeod** addresses the Hearing Panel's process questions from a planning perspective. My understanding is that the experts advising the Transport Agency have assessed effects on a realistic 'worst case' basis, taking into account the flexibility inherent in the proposed designations, and have advised on 'envelopes' and other conditions required to control particular aspects of the design and ensure that effects will be acceptable. I also understand that the outline plans will entail the Transport Agency demonstrating how those outcomes have been achieved, as well as providing the details of the final form of the works.

RESPONSE TO COUNCIL SECTION 42A REPORTS

119. The Planners' Section 42A Report includes a section on effects on landowners and infrastructure providers. In that respect I wish to note only that I agree with the view expressed that it would be appropriate to consider more information on the effects the Project might have on the AgResearch site. The Transport Agency has engaged **Dr Horne** and **Mr Morton** for that purpose, and I refer to their evidence in that respect. **Ms McLeod** puts forward the conditions the Transport Agency is proposing taking into account that evidence.
120. Otherwise, I note that the planners have expressed some concern about the 'deliverability' of areas within which offset planting is to be carried out. I have discussed this above; at this time, no private land has been secured for any aspect of the Project, including the potential planting areas. These are matters to be worked through with landowners. In the meantime, as **Ms McLeod**, explains, a 'net gain' environmental outcome is proposed through conditions to provide certainty that the relevant effects of the Project will be addressed.

Lonnie Dalzell

8 March 2019

**ATTACHMENT 1: AGRESEARCH'S "FUTURE FOOTPRINT BUSINESS CASE"
DATED 31 OCTOBER 2012.**

Provided separately.



Future Footprint Business Case

31st October 2012



Enhancing the value, productivity and profitability of New Zealand's pastoral, agri-food and agri-technology sector value chains to contribute to economic growth and beneficial environmental and social outcomes for New Zealand.

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AgResearch Future Footprint – Executive Summary

Introduction

This Business Case seeks formal approval for the Future Footprint project.

AgResearch has signalled the Future Footprint project in its last two Statements of Corporate Intent (SCIs). This Business Case outlines the rationale and expected benefits to New Zealand from this project. We believe it represents the best investment AgResearch can make to support the achievement of our Core Purpose.

The project proposes to re-invest capital proceeds from the disposal of AgResearch's under-utilised assets, and to use cash surpluses and some minimal debt, to upgrade research facilities and realign existing capability to strengthen two existing agriculture innovation centres, and to streamline two regional campuses over the next five years.

Based on our current modelling this would represent an estimated capital cost of \$ [REDACTED] million ([REDACTED]).

The project offers a unique opportunity to advance the dual objectives of lifting the standards of our research facilities and catalysing agriculture innovation centres, without requiring additional shareholder funding. Together, this will better position AgResearch and its collaborators to support the agriculture sector for the long term.

Executive Summary

Context

New Zealand's long term economic wealth and growth aspirations are dependent on a significant lift in the productivity and export performance of New Zealand's agri-sector.

Off-shore demand will grow significantly for New Zealand agri-foods particularly in Asia, and the New Zealand agri-sector will need to continue to achieve significant sustainable productivity increases and ongoing product innovation to satisfy these consumer markets.

If New Zealand is to meet this demand, science-led innovation, knowledge transfer, adoption and practice change will be key. As New Zealand's largest Crown Research Institute (CRI), AgResearch has a lead role to play, working closely in partnership with sector stakeholders to deliver the required step change in performance and competitiveness.

In playing this lead role AgResearch has identified in its Statement of Corporate Intent 2012 – 2017 the impacts it must create to produce outcomes that add significant value to New Zealand's wider pastoral sector. It describes how AgResearch will foster essential relationships and how it will deploy its resources – people, infrastructure and capital – to realise these strategic goals.

The Future Footprint project is about the deployment of these resources and how to re-position them to operate more effectively and efficiently, in a way that will be enduring for the long term. This repositioning is two-fold.

Firstly, there is a need to rationalise, and upgrade AgResearch's facilities, currently located at its four campuses. The campuses are Ruakura (Hamilton), Grasslands (Palmerston North), Lincoln (Canterbury) and Invermay (Dunedin).

Building occupancy at each campus varies considerably and is not aligned to our current and strategic needs. For example, at Grasslands, where we need to grow capability, there is no further capacity for additional staff, while at the other three campuses there is between 62 – 67% occupancy.

There are also a number of major buildings, particularly at Grasslands and Lincoln, that are old, built in the 1960s and 1970s, increasingly unfit for purpose, in need of significant investment and in some cases seismic strengthening.

In addition, the absence of modern science facilities will become more of an issue for AgResearch as it seeks to attract and retain a workforce that draws 70% of its science talent from offshore, and as it promotes science as an occupation for young New Zealanders to aspire to.

Secondly, the current locations of our staff are the result of historic mergers of various science organisations, rather than strategic planning that takes into account key sector stakeholders and internal/external collaboration needs. This has resulted in research teams being spread across multiple campus locations, not well aligned for science collaboration internally, or externally with other science organisations and key stakeholders, nor optimal for delivering our SCI.

We believe more internal collocation of the research capabilities at AgResearch will lead to better communication and knowledge "spillover" and greatly improve our science's contribution to innovation. Increased collaboration with like-minded organisations in what will be enhanced science "centres of excellence" will lead to more innovation via higher quality science outputs, greater knowledge transfer, adoption and practice change, and ultimately better outcomes for New Zealand agriculture.

This is based on the well-established benefits derived from large innovation "centres of excellence", populated by research, academic, and business organisations that create and deliver enduring outcomes (Refer Porter's Clusters and the New Economics of Competition¹ and Clusters, Innovation and Entrepreneurship²). Our analysis outlined in the economic case quantifies the potential minimum benefits at \$60 million GDP growth in the first five years after completion of the project, and \$20 million per annum thereafter. However we believe these could be significantly greater.

The Government's Business Growth Agenda also identifies that Crown Research Institutes (CRIs), Universities and Polytechnics need to do more to become centres of innovation, undertaking superb research and being drivers of economic growth.

¹ Porter, Michael E. "Clusters And The New Economics Of Competition." *Harvard Business Review* 76.6 (1998): 77-90. *Business Source Premier*. Web. 15 Oct. 2012

² OECD (2009), *Clusters, Innovation and Entrepreneurship*, Local Economic and Employment Development (LEED), OECD Publishing. doi: [10.1787/9789264044326-en](https://doi.org/10.1787/9789264044326-en)

Affordability

The financial modelling of the Future Footprint project shows that the project is affordable and can be funded by re-investment of proceeds from the disposal of AgResearch's under-utilised assets, cash surpluses and some minimal short term debt. No "new" capital is being requested. The financial model shows a positive NPV of \$33.6 million over a ten year period.

For comparative purposes we have modelled three options for this Business Case: the Future Footprint Preferred (FFP) Option and two further Business as Usual Options(BAU).

The BAU options are based on retaining staff across the current campuses.

BAU Option One includes all the required refurbishment to upgrade existing facilities to an acceptable standard if collocation of staff as outlined in the FFP Option did not occur. However this option would also not deliver the innovation centre objective and associated economic benefits.

BAU Option Two includes the minimum required refurbishment and upgrade programmes that are needed at AgResearch in the short term, which have been deferred for many years. Adopting this option only, would simply defer the inevitable major asset replacement costs that AgResearch is facing, and would see a longer term need for significant capital lump sums.

Importantly, the BAU options would not deliver the innovation centre objectives and associated economic benefits.

A "do nothing" option has not been modelled since the upgrade of facilities is seen as an imperative in order to deliver the SCI and resulting economic benefits to the sector. It would also expose AgResearch to significant seismic risk, unnecessary maintenance and renewal and a suite of other property related costs.

Key Objectives of the Project

The Future Footprint project is therefore focussed on addressing two key objectives:

- a. Improving infrastructure quality and utilisation. Building new, upgrading (to modern standards) and rationalising a number of obsolete facilities that currently restrict our ability to attract talent and to deliver modern science effectively.
- b. Catalysing agriculture innovation centres. Delivering better economic growth to New Zealand by collocating and focusing, wherever possible, our considerable research capability and resources into two key agriculture innovation centres with other major stakeholders. This would deliver better innovation to the sector, attract more science talent and industry partners, and realise greater economic growth for agriculture and related sectors.

We intend to achieve these two objectives contemporaneously by realigning our existing research capability and focussing building reinvestment over the next 4-5 years into two agriculture innovation centres at Grasslands (Palmerston North) and Lincoln (Canterbury). Discussions are underway with a number of committed stakeholders at both of these locations to grow joint capacity and capability. We have also been working closely with sector partners, other CRIs, and Massey and Lincoln Universities, and have arrangements underway to plan and share assets at these centres. These would particularly include both

shared conference, meeting and cafeteria facilities, and also shared use of expensive science equipment/facilities.

We would retain two smaller regional campuses at Ruakura (Hamilton) and Invermay (Dunedin).

The Future Footprint project, managed over a five year period, would see, based on current modelling, the relocation of approximately 100 net positions to Grasslands and 150 net positions to Lincoln, from Ruakura and Invermay. With staff attrition and retirements over the period, approximately 195 staff would transition to new locations. AgResearch's ability to deliver its SCI will not be compromised during the implementation of the Future Footprint project. There will be no reduction in science capability as a result of the project, and some capability would grow significantly.

As staff transition to these innovation centres, we will free up surplus property, which will be sold, leased, and/or in some cases possibly used by other CRIs. These discussions are underway.

Given the scope of this change a significant change management plan together with a project management and governance structure has been developed which is intended to minimise the risk of staff attrition and the impacts on research and revenue during the transition phase.

Summary

We have a window of opportunity with this project to address major infrastructure issues facing AgResearch, while also creating significant impetus for the Business Growth Agenda by catalysing agriculture innovation centres. The project can be funded wholly by AgResearch, without the need for "new" capital and will see facilities upgraded to a world class standard, positioning AgResearch on a stronger footing for the future.

This Business Case has been structured according to the Treasury guidelines for "Better Business Cases". The Business Case is organised around a five case structure designed to systematically ascertain that the Future Footprint investment proposal is:

- supported by a robust case for change and will deliver value to New Zealand (the strategic and economic cases);
- financially affordable (the financial case);
- commercially viable (the commercial case); and
- achievable (the management case).

Strategic Case

New Zealand Agriculture

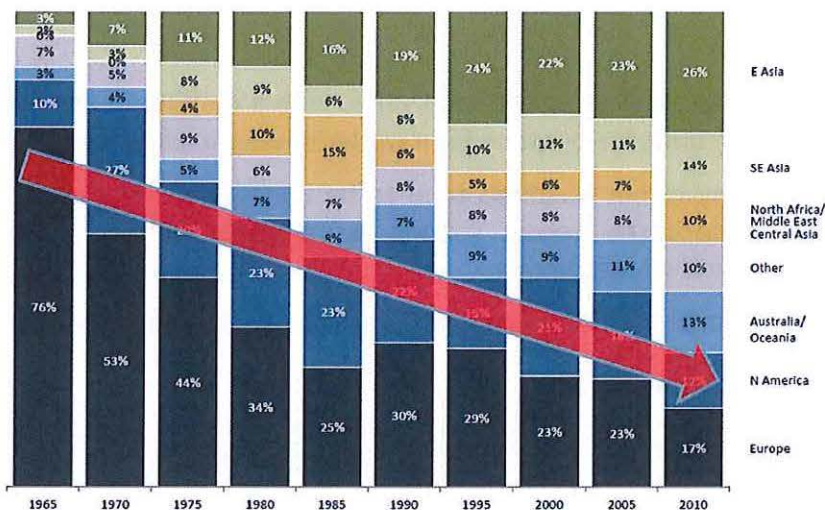
Agriculture is the backbone of the New Zealand economy. It currently generates more than \$21 billion in export earnings, and directly employs 128,000 people.

The Government recognises that even greater contributions from the agri-sector (food, beverage and fibre) are pivotal to its Business Growth Agenda and lifting exports from 30% to 40% of GDP by 2025. Fortunately, the world’s biggest megatrend is on our side – Asia will be the engine of global growth. The growing Asian middle class is increasingly the target for our food, beverage and fibre companies. Agri-sector growth potential is supported by best in class market access agreements in this region and we are already in the middle of a fundamental transition from feeding Westerners to feeding customers in the Asia-Pacific region.

Figure 1:

New Zealand in the middle of a fundamental transition from feeding Westerners to feeding the Asia-Pacific region

Share of New Zealand F&B export value by region
(% of US\$, 1965-2010)



PAGE 14

NA/ME/CA = North Africa/Middle East/Central Asia; Source: UN Comtrade database; Coriolis analysis

CORIO LIS

The key for New Zealand companies will be their global competitiveness in this market. This competitiveness will hinge on a steady stream of innovative products that are safe, trusted, occupy the premium end of the market and are consistent with consumers’ view of the “New Zealand” brand.

Science-led innovation in on-farm productivity growth, product development and environmental management will be an important contributor to realising Business Growth Agenda targets. As New Zealand’s largest Crown Research Institute (CRI) and the Government’s primary research and development extension into the pastoral agricultural sector, AgResearch must be positioned to play a key role in this innovation.

AgResearch Context

Our recent strategic and structural changes (consistent with the CRI Taskforce findings) have moved AgResearch much more into a partnership relationship with the agri-sector and we are beginning to see increased private sector R&D spending and much more durable relationships as we (sector companies, AgResearch and our collaborators) focus on maximising the returns from our respective investments in R&D, knowledge transfer, adoption and practice change.

To deliver on the Government's growth aspirations and to achieve outcomes for the agriculture sector, and New Zealand, we need to change how we and others in the sector operate. We need to create much greater intimacy and more opportunities for diverse talents to interact and collaborate in order to address our big challenges. We need to collectively attract more and diverse talent to New Zealand's largest sector and greatest growth opportunity.

Increasing collaboration and effectiveness is a key objective of Future Footprint. At AgResearch, this means focussing and growing our own capabilities into two centres that will catalyse and accelerate the ongoing development of them as agriculture innovation centres. This would see our capabilities collocated with other like-minded communities of stakeholders including research institutions, universities, industry sector bodies, and commercial companies.

AgResearch Facilities

The condition of the building stock at AgResearch varies with a number of key buildings that are old and are increasingly unfit-for-purpose for a world-leading science organisation.

Given their condition, many of our buildings tend to be uneconomic to refurbish, and are incurring high maintenance costs. Recent seismic assessments indicate the need for a number to undergo structural strengthening.

The following provides a summary of the major buildings and their respective ages.

Table 1: Percentage of buildings by age

	Pre 1931	1931-1960	1961-1970	1971-1980	1981-1990	1991-2000	Post 2000
All sites	7%	5%	24%	24%	27%	5%	8%

Note: Figures shown as percentage of total major buildings

Attracting Talent

Like all science organisations we compete in the global market to attract and retain talented science and commercial staff. New Zealand does not currently produce enough science capability to meet AgResearch's needs and we expect to continue to recruit in excess of 70% of our scientists from overseas. Our capability needs will significantly increase given our staff age profile and expected retirements. For example, our workforce demographics in the next 5–10 years will see significant numbers of science roles to be filled: 15% of AgResearch scientists are over 60 years of age, and a further 27% are aged 50–59 meaning 42% are 50+ years of age.

We believe the science we undertake, the facilities we operate in, and their standards relative to other international research organisations will continue to be important in attracting and retaining New Zealand and off-shore staff for our organisation, and providing an attractive environment for more young people to take up science tertiary studies in partnership with CRIs. Our facilities are also key to promoting partner organisations secondments and exchanges both nationally and internationally.

The current state of AgResearch facilities will increasingly become a greater barrier to attracting and retaining the talent that New Zealand requires.

Utilisation of CRI assets and future proofing

AgResearch currently owns over 84,000m² of working space, yet we only use around 61,000m² ourselves. Future Footprint modelling indicates we will require around 53,000m² of facilities. This highlights the significant difference in building efficiency between buildings constructed in the 1960s and 70s compared with modern science facilities.

Of our four campus locations, three are under-utilised in terms of percentage occupied by AgResearch (Ruakura 67%, Lincoln 65%, and Invermay 62%), whilst one is struggling to meet capacity demand (Grasslands). Overall we utilise 72%.

Table 2: Summary – Current occupancy per Campus – as at September 2012

Site	AgResearch Occupied (m ²)	Tenant (m ²)	Vacant (m ²)	Total Usable Space (m ²)
Ruakura	21472 (67%)	8817	1845	32133
Grasslands	21159 (92%)	1677	253	23090
Lincoln	9803 (65%)	4654	679	15136
Invermay	8790 (62%)	1866	3518	14174
Total	61224 (72%)	17014	6295	84533

Under Future Footprint, in addition to better asset utilisation within AgResearch, we will also rationalise and improve efficiencies across CRIs.

For example Plant and Food Research and AgResearch will achieve efficiencies through Future Footprint plans at Grasslands and Lincoln, [REDACTED].

We are also in initial discussions with other CRIs, companies and sector bodies who have expressed an interest in being party to the agriculture innovation centres. If the Future Footprint project is approved and we can commence a committed roll-out of our Future Footprint planning, they are likely to increase their migration to these centres over time.

Finally, our current configuration of facilities on our four campuses, and the potential need to spread investment across all four, in their current state, will constrain our ability to adjust to the changing needs of science in an efficient way in the future. Having two large agriculture innovation centres aligned with more modern design practices will provide better flexibility to adjust to the changing nature of science in the future. This “future proofing” would ensure more long term effective infrastructure spend, and would help us avoid a repeat of the current situation of significantly under-utilised assets, and subsequent balance sheet impacts.

Collocation and Catalysation of Agriculture Innovation Centres

The current locations of our staff are more due to historic mergers of various science organisations, rather than strategic planning that takes into account key sector stakeholder needs and the need to maximise both internal and external collaborations. This means our research teams are spread across multiple campus locations, not well aligned for science collaboration internally or with key stakeholders.

The numbers of AgResearch staff currently located on-site at our four major campuses across New Zealand: Ruakura, Grasslands, Lincoln, and Invermay are set out below.

Table 3: AgResearch current staff locations

	Ruakura	Grasslands	Lincoln	Invermay	Total
Science	173	223	89	88	573
Non Science	93	44	27	25	189
Total	266	267	116	113	762

In determining where our staff should be located, we have consulted a number of key stakeholders including Lincoln and Massey Universities, Plant and Food Research, Landcare Research, DairyNZ, Beef + Lamb New Zealand and Fonterra. Together we believe the two geographic locations most suited as agriculture innovation centres for delivering capability, science and innovation outcomes to the agricultural sector for the long term are Palmerston North and Lincoln.

Palmerston North

Our view is that Palmerston North is, and will continue to be, an agricultural innovation centre for: forage improvement, animal nutrition, metabolism and health, anaerobic (including rumen) microbiology, agricultural greenhouse gases, human nutrition, dairy processing, and food assurance and innovation for New Zealand. Our relevant capability that would logically be centred here would include forage science, animal nutrition, metabolism and health, human nutrition, food assurance and innovation research. We are also part of the Agrifood Innovation Hub initiative, with Massey University, Plant and Food Research, the Riddet Institute and Fonterra, together with the regional and local councils. This initiative is focused on economic growth through collaborative research and sector partnerships in Palmerston North.

Lincoln

The presence of Lincoln University, most of the key primary and land and environmental focussed CRIs (AgResearch, Plant and Food Research and Landcare Research), as well as key stakeholders from the broader agricultural sector, make Lincoln township the logical second agricultural innovation centre and the South Island location. Our stakeholder discussions have confirmed that it is an appropriate location to further grow and concentrate innovation to support South Island dairying, sheep, beef and deer (including animal genomics/genetics and reproduction), sustainability and environmental, and textiles research. Our relevant capability at Lincoln would be focussed on South Island farm systems, sustainability and environmental issues, animal genomics/genetics and reproduction and textiles research.

By committing more resources to these two locations, AgResearch will add to the impetus of creating New Zealand's agricultural equivalents to the "food valley" in the Netherlands and IT "silicon valleys" in the USA.

For example, DairyNZ have indicated a need to grow their South Island capability significantly over the next five years. We have agreed that collocating AgResearch staff and DairyNZ staff and sharing infrastructure at the Lincoln site will enhance our partnership and contribute to more joint research initiatives and better science outcomes for the industry. We will be proceeding on that basis with DairyNZ if the Future Footprint Business Case is approved.

Regional Campuses

There is a need to retain capability in key regions to focus on the farm systems, land-use, sustainability and environmental research, technology transfer, adoption and practice change issues that require a regional presence. This is particularly relevant to the Waikato and Otago/Southland with the significant presence of dairy farming. We and DairyNZ believe it is important to retain two regional campuses in Ruakura and Invermay primarily to support the regional needs of the dairy industry for this purpose.

Project Objectives

The Future Footprint project is focussed on addressing two objectives:

- a. Improving infrastructure quality and utilisation. Building new, upgrading (to modern standards) and rationalising a number of obsolete facilities that currently restrict our ability to attract talent and to deliver modern science effectively.
- b. Catalysing agriculture innovation centres. Delivering better economic growth to New Zealand by collocating and focusing, wherever possible, our considerable research capability and resources into two key innovation centres with other major stakeholders. This would deliver better innovation to the sector, attract more science talent and industry partners, and realise greater economic growth for agriculture and related sectors.

The Future Footprint project offers a unique opportunity to advance dual objectives of lifting the standards of our facilities and investing in agriculture innovation centres. Together, this will best position AgResearch and its collaborators, networks and partners to support the pastoral sector for the long term.

Economic Case

The Future Footprint project has two key objectives. The first is a significant infrastructure upgrade, which would see refurbishment and new facilities built, replacing old assets, and avoiding significant capital expenditure in future years. The financial modelling in the Finance section shows the affordability, the financial impacts of this infrastructure upgrade, and shows a positive NPV over 10 years of \$33.6

million.

The second is to catalyse agricultural innovation centres. Research across many countries indicates that “clustering” supports better research outcomes³. Although a depreciated value of research investment over time is frequently used as a proxy for the stock of knowledge that drives productivity growth⁴, we believe that the stock of knowledge would increase more quickly with a more efficient application of that investment.

The following table shows the potential economic impact on agricultural sector GDP if the sector knowledge was increased as a result of collocation of researchers and sector stakeholders in larger innovation centres. The table shows the effect of raising research quality from 1.6% through to 10%. As described on page 15 it is believed that collocation of AgResearch staff would lead to at least a 1.6% increase in research quality, resulting in a \$60 million growth in agriculture’s GDP after 5 years, and \$20 million per annum thereafter.

If adding the additional benefits of collocating with non-AgResearch scientists in innovation centres, and attracting further sector stakeholders, we believe the impact could be much more significant. For example a 5% increase in research quality would see \$187 million GDP growth after 5 years and \$61 million per annum thereafter.

Table 4: Change in agricultural GDP⁵

% Increase in research impact	GDP (\$m p.a.)					5 year total	Long term p.a.
	2017	2018	2019	2020	2021		
1.6%	6	10	13	15	16	60	20
3.0%	11	19	24	28	31	113	37
5.0%	18	31	40	47	51	187	61
10.0%	37	63	81	93	102	376	123

³ For example:

Allen, T.J. (1977) *Managing the Flow of Technology: Technology Transfer and the Dissemination of Technological Information within the Research Organisation*, The Massachusetts Institute of Technology.

Feldman, M.P. & Florida, R. (1994) The geographic sources of innovation: Technological infrastructure and product innovation in the United States, *Annals of the Association of American Geographers*, 2, **84**, 210-229.

Lee, K., Brownstein, J.S., Mills, R.G. & Kohane, I.S. (2010) Does Collocation Inform the Impact of Collaboration?, *PLoS ONE*, 12, 5.

⁴ Hall, J. & Scobie, G.M. (2006) *The Role of R&D in Productivity Growth: The Case of Agriculture in New Zealand: 1927 to 2001*, Report No. 06/01, New Zealand Treasury Working Paper, Wellington, New Zealand. [<http://www.treasury.govt.nz/workingpapers/2006/twp06-01.pdf>]

⁵ This table was calculated by assuming a 30% annual depreciation rate for the stock of knowledge, an agricultural GDP of \$8.3 billion per annum (for the year to June 2012, adjusted to 2012 \$NZ by the expenditure on GDP deflator) and the elasticity of output with respect to the stock of domestic knowledge that was estimated at 0.148 by Hall & Scobie (2006).

The economic benefits we expect to see are discussed below in some detail and we have attempted to conservatively quantify some aspects of these in monetary terms. However it was not possible to definitively monetise the total economic benefits of collocating with others and/or “clustering”, with any confidence. While we believe the benefits may be substantial we have not identified a robust and accepted method to precisely quantify them and it has been advised that we do not.

The economic benefits of collocating most AgResearch staff at two innovation centres that are close to research partner organisations fall into three categories:

- a. **Improved Research Quality within AgResearch:** Collocating AgResearch staff in larger clusters will improve the quality and productivity of AgResearch’s own research outputs as a result of greater synergies and easier collaboration between AgResearch staff.
- b. **Strengthening research outputs:** Locating the bulk of AgResearch’s staff to New Zealand’s two major agriculture innovation centres will see significantly more collaboration in agri-technology, biological and food research with staff of other research and private sector organisations. This will strengthen New Zealand’s research outputs in those fields and thus drive knowledge creation and innovation and hence economic growth.
- c. **Innovative Business Clusters:** Creating agriculture innovation centres will attract innovation-based businesses, taking advantage of the proximity to strong research that is relevant to their areas of activity.

Economic Benefits of Improved Research Quality within AgResearch

Blakeley *et al.*⁶ note that factors influencing knowledge creation within a firm can include the amount of R&D being performed, the effectiveness/efficiency of that R&D, the level of human capital, and the firm’s organisational structure and incentives for informal innovative activity. They found that the evidence suggests R&D is an important input into innovation, via both knowledge creation and knowledge absorption, but other factors are also likely to be important. (*ibid* pp.9-10).

It is proposed that the effectiveness and efficiency of AgResearch’s R&D could be improved by collocation, and that improved effectiveness/efficiency of R&D should lead to improved economic growth, based on the following chain of logic:

- a. Collocation with other AgResearch staff and with staff of partner research organisations leads to greater collaboration.
- b. Greater collaboration leads to qualitatively and quantitatively better research results.
- c. We can expect qualitatively and quantitatively better research results to lead to more innovation for our sector, based on Blakeley *et al.*
- d. We can expect more innovation for our sector to lead to more economic growth, based on the observations of Blakeley *et al.*

Given that (c) and (d) are well-established and quantified in economic literature (Blakeley *et al.* provided references), the question to address is the extent to which collocation could lead to quantitatively and qualitatively better research.

⁶ Blakeley, N., Lewis, G., Mills, D. (2005) The Economics of Knowledge: What Makes Ideas Special for Economic Growth?, New Zealand Treasury Policy Perspectives Paper 05/05.

Our analysis of publication co-authorship rates shows that staff at AgResearch campuses that are already located in centres of agricultural research (Grasslands, Hopkirk and Lincoln) co-authored about 60% of their publications with New Zealand collaborators, while about 50% of Invermay and Ruakura papers were co-authored with New Zealand collaborators. Further, the citation rate for papers without any collaborators was consistently lower than the citation rate for papers with New Zealand collaborators. Citation rate is frequently used as a proxy for research quality.

We estimate, on this basis, that better collocation would result in New Zealand collaborators being involved in 10% more of the papers produced by current Invermay and Ruakura staff, which would (if the historical relationship continued to hold) equate to an increase of 1.6% (217 citations) on the total number of citations. We assume that this improvement in research quality would add to the stock of knowledge in the same way that a similar real increase in research investment quantity would do, if quality remained unchanged. Given the knowledge depreciation rate of 30% per annum estimated by Hall & Scobie⁷, increasing the rate of knowledge production by 1.6% would increase the stock of knowledge (assuming a constant investment in relevant R&D, in real terms) by half that much in two years, three quarters of that much in 4 years and eventually increase the total knowledge stock by 1.6%.

Using the model of Hall & Scobie (p.22), the elasticity of output with respect to the stock of domestic knowledge was estimated at 0.148. If the increase in research quality had the same effect on our collaborators as on AgResearch (and thus affected all agriculture-related R&D, rather than just AgResearch's share of the total) raising the stock of domestic knowledge by this amount would raise multifactor productivity by 0.24% in the long term. Given a figure of \$8.3 billion per year for agricultural GDP, the improved quality of R&D would increase GDP by \$20 million per year in the long term.

Economic Benefits of Scientific Innovation Centres

There is considerable evidence that proximity improves the performance of research and development activities because it improves the effectiveness of communication between researchers. For example, Lee *et al.*⁸ showed that for papers co-authored by Harvard investigators in biomedical science, the mean citation rate for a paper decreased as the distance between the authors who were named first and last on the author list increased, whether the authors were located in the same building, the same city, or different cities. In fact, the mean citation rate for the papers studied fell by about 10% when the first and last authors of those papers were in the same city rather than the same building and by at least as much again when those authors were in different cities. Citation rate is often used as a proxy for research quality, so this research suggested that proximity improved research quality.

Within AgResearch, publication co-authorship data shows that AgResearch staff at each of our campuses most frequently co-authored papers with non-AgResearch scientists who were located geographically close to them. Grasslands-based scientists collaborated most with other organisations' scientists who were located in Palmerston North; Lincoln-based scientists collaborated most with other organisations' scientists who were in Lincoln or Christchurch; and Ruakura scientists collaborated most with colleagues from other organisations in Hamilton and Auckland.

⁷ Hall, J., Scobie, G.M. (2006) The Role of R&D in Productivity Growth: The Case of Agriculture in New Zealand: 1927 to 2001, New Zealand Treasury Working Paper 06/01.

⁸ Lee, K., Brownstein, J.S., Mills, R.G., Kohane, I.S. (2010) Does Collocation Inform the Impact of Collaboration?, PLoS One, 5(12): e14279.

Publication co-authorship data also shows that 66% of published papers included AgResearch staff from only one campus, despite the fact that 83% of published papers had at least two AgResearch authors. This observation could partly be explained by the likelihood that staff who were most likely to work together on projects were already collocated. However, it is also likely that some AgResearch staff could have collaborated productively to produce economic benefits for the agriculture sector but did not do so because they rarely met and had little chance to identify collaboration opportunities.

Based on this evidence, we believe relocating AgResearch scientists to centres of agri-science, agri-technology, biology and food science will make it more likely that cross-organisational research teams can be formed from members who are mostly located within close proximity. The evidence suggests that the resulting improved communication between scientists will lead to the identification of more collaborative research opportunities and, ultimately, to more valuable science to benefit the agriculture sector.

AgResearch is a large and diverse research organisation, with many staff who are skilled in diverse research areas that are relevant to the agriculture sector. Relocating AgResearch staff to Grasslands and Lincoln, as proposed in the Future Footprint project, will increase the number of researchers in those locations by 30% and 90% respectively, thereby making a substantial difference to the number of researchers with shared interests and diverse skills in each hub location.

Economic Benefits of Innovative Business Clusters

Some major private businesses in the agriculture, food or biology fields are already located near the two innovation centres (such as Fonterra's research centre in Palmerston North). As the research capability in each location is strengthened, we expect they will become more attractive as locations for private businesses that wish to gain competitive advantage from that research capability.

The hubs will then take on many of the characteristics of successful research parks, for instance, according to Wessner & Wolff⁹:

- Successful research parks tend to have a large research university or national laboratory at their core and support a critical mass of highly trained knowledge workers.
- Strong public-private partnerships among government, corporations, universities, and national laboratories are increasingly important to the success of research parks.
- There is ample evidence that public investment in research parks have a high "spillover" effect in terms of attracting corporate investment, creating jobs, and forming new companies, although more work must be done to measure such impact with precision.
- Public financial and policy support must be sustained over the long term if research parks are to win support from corporate investors. Given the long-time horizons of major corporate research programs, public commitment must be viewed as reliable.

⁹ Wessner, C.W. & Wolff, A.W. (2012) Chapter 7: Clusters and Regional Initiatives, In: *Rising to the Challenge: U.S. Innovation Policy for Global Economy*, The National Academies Press, Washington DC, USA. [http://www.nap.edu/catalog.php?record_id=13386]

- Research parks must be viewed as much more than real estate projects if they are to be catalysts of innovation. Successful parks not only offer corporations access to first-rate public research institutions and talent, but also valuable services such as low-cost shared laboratory and prototyping facilities, small-business incubators, advice on intellectual property, and assistance in raising early-stage capital.

AgResearch has committed to building strong partnerships with private sector agriculture, agri-technology and food businesses to sustain its investment over the long term to attract private sector investment and to make its facilities and support available to its partners.

Financial modelling is provided to show the different financial outcomes for AgResearch based on the different models including sensitivity analysis. The financial outcomes include profitability, cash flow, dividends, return on equity and adjusted return on equity.

The modelling shows the ongoing financial viability and sustainability of the business under the Future Footprint project and the sensitivity and risk analysis indicates the level of risk being assumed.

It is noted that for a CRI the benefit to the shareholder will only ever be in part delivered by the financial return of the business, the majority will be provided by the wider economic return to New Zealand (refer to the Economic case).

Three models have been prepared which provide a Statement of Balance Sheet, Profit and Loss, Balance Sheet and Statement of Cash flow for 10 years.

1. The **Future Footprint (FFP)** model which is the preferred option for the AgResearch campuses. For this model sensitivity analysis has also been prepared for:
 - Expected case – based on the current information that is available for the project.
 - Worst case – based on the expected case but assuming that asset realisations, capital expenditure costs and timings are unfavourable.
 - Best case – based on expected case but assuming that asset realisations, capital expenditure costs are favourable.
2. The **Business as Usual Option One (BAU Option One)** model assumes Future Footprint does not occur. The model is based on retaining staff across the current campuses in their current distribution. It includes major asset replacement and upgrades plus facility maintenance needed within the ten years. It includes additional information that has arisen since the preparation of the 2012-17 SCI (for example, seismic strengthening of buildings). The actual opening Balance Sheet position as at 1 July 2012 is incorporated.
3. The **Business as Usual Option Two (BAU Option Two)** model assumes Future Footprint does not occur. The model is based on retaining staff across the current campuses in their current distribution. It includes the minimum facility maintenance and development needed in the short term, which has been placed on hold, and will be required if Future Footprint does not proceed. It includes additional information that has arisen since the preparation of the 2012-17 SCI (for example, seismic strengthening of buildings). The actual opening Balance Sheet position as at 1 July 2012 is incorporated.

The **Statement of Corporate Intent (SCI)** model in Appendix 4 on page 95 is the information provided in the AgResearch 2012-17 SCI and has been extended out five years to FY2022. The SCI included early estimations for Future Footprint.

These models allow us to compare the Future Footprint project's impact on profitability, cash flow and key ratios.

Assumptions Used in the Financial Analysis

The significant assumptions used in modelling are:

- The models are based on a 10 year period to 30 June 2022.
- Property and farm sales are based on the latest current valuations except for the Wallaceville campus where a best estimate has been made based on current information. These are outlined in the assumptions listed below.
- The dates of farm property sales are aligned with the 2010 Farm Strategy. This business strategy was approved by the Board in November 2010. The timing of these sales will be at risk from the regulatory requirements that are required to be completed for the sale of each property. These are outside the control of AgResearch.
- Dates of other property sales arising from this Future Footprint strategy are best estimates.
- Farm assets that are being rationalised through disposal of surplus capacity remain the same throughout all models with the additional sale of [REDACTED] Farms in the Future Footprint model.
- Disposal of the surplus Wallaceville campus remains the same throughout all models.
- The sale proceeds have been updated from the 2012-17 SCI to the BAU options and the FFP based on current information.
- Capital asset purchase data has been prepared by external consultants and these include 10% building contingencies.
- Staff modelling is outlined in the Commercial Case.
- Interim and final dividends are modelled. Interim dividends are provided in the December quarter and paid in March quarter. Final dividends are provided in the June quarter and paid in the September quarter.
- The discount rate used in the Net Present Value (NPV) calculations in the modelling is 8.0% (current government cost of capital). Two NPV calculations have been provided
 - NPV over the 10 years being modelled measuring the short term impact of each model.
 - NPV in perpetuity measuring an approximate value of the business following each model.
- The growth rate of profits beyond FY2022 used in the NPV calculations in perpetuity is 5% per annum.

The generic financial assumptions used across all models are as follows:

- The material assumptions underpinning the 2012-17 SCI have been used in these models, unless modified. These are:
 - Revenue from the Ministry of Business, Innovation and Employment (MBIE) increases slightly at \$1m p.a. from FY2014.
 - Commercial science revenue increases [REDACTED] annually.

- Science personnel costs increase to the market median in FY2013 (6.5%) and then increase by Consumer Price Index (CPI) (3.5%) each year. Non-science personnel costs, already at market median, will increase by Consumer Price Index (CPI) (3.5%) approximately each year.
- Personnel numbers sufficient to deliver increases of revenue.
- Efficiency gains are made to absorb inflation on operating costs and non-science salary increases. From FY2018 operating costs increase in line with increased revenue.
- No additional retained profits are directed towards science and innovation goals other than that indicated in the 2012-17 SCI.
- Farm revenue and costs for individual farms are removed as they are sold.
- Depreciation
 - Buildings 5.00%
 - Land 0.00%
 - Land Improvements 5.00%
 - Plant and Equipment 20.00%
 - Taxation depreciation rates are used for taxation purposes including a rate of 0.00% for buildings with a life greater than 50 years.
- Interest Rates

Table 5: Interest rates

	FY2013	FY2014	FY2015	FY2016	FY2017+
Overdraft and Term Loan	5.25%	5.50%	5.75%	5.75%	5.75%
Surplus cash	3.25%	3.50%	3.75%	3.75%	3.75%

- Taxation 28%
- Land and building revaluations for the assets sold are assumed to be re-valued to their June 2012 value every three years. Revaluation Reserves held for assets sold are released to Retained Earnings in the year of sale.
- Revaluations, write downs and impairments of land and buildings purchased and built during the period are assumed to be nil. The same assumption has been used for existing land and buildings. This assumption will not have a material effect on Return on Equity % or Adjusted Return on Equity %. AgResearch uses Adjusted Return on Equity % as a key measure of performance when comparing its performance against other Crown Research Institutes.

Future Footprint Model

FFP Assumptions

Statement of assumptions for the FFP model.

- Establishment over the next five years of two agriculture innovation centres at Grasslands and Lincoln; with continuation of two smaller regional sites at Ruakura and Invermay. Largely funded by re-investment of proceeds from the disposal of under-utilised campuses and farms.

Table 6: Asset expenditure and disposal for FFP

Location	Sell Amount	Purchase Amount	Completion Date
[REDACTED]	[REDACTED]	[REDACTED]	March 2017
Wallaceville	[REDACTED]	[REDACTED]	March 2013
Lincoln current site (net of demolition and decontamination costs)	[REDACTED]	[REDACTED]	September 2016
Purchase from [REDACTED] of land and buildings at Grasslands	[REDACTED]	[REDACTED]	March 2013
New facilities at Grasslands	[REDACTED]	[REDACTED]	June 2016
New Lincoln site and buildings	[REDACTED]	[REDACTED]	March 2016
Total	[REDACTED]	[REDACTED]	

- Farm assets are being rationalised through disposal of surplus capacity and purchase of additional capacity.

Table 7: Farm acquisition and disposal for FFP

Location	Sell Amount	Purchase Amount	Date
Kaitoke	[REDACTED]	[REDACTED]	March 2013
Flock House	[REDACTED]	[REDACTED]	June 2013
Winchmore	[REDACTED]	[REDACTED]	January 2014
Ballantrae	[REDACTED]	[REDACTED]	January 2014
[REDACTED]	[REDACTED]	[REDACTED]	March 2016
[REDACTED]	[REDACTED]	[REDACTED]	March 2016
[REDACTED]	[REDACTED]	[REDACTED]	December 2015
Total	[REDACTED]	[REDACTED]	

- Reduction of AgResearch occupied space at Ruakura resulting in vacated space being leased out to external parties.

- Assumed no delay or net loss in Science revenue due to relocation disruption (refer Risk Register and Risk Mitigations).
- Deferred maintenance work at Ruakura \$3.1m.
- From FY2018 revenue increases by an additional 1% per annum to a maximum of 5% additional revenue in FY2022.
- Assumed no change in operating costs in the non-science departments with the exception of efficiencies made in campus site operating costs arising on the completion of Future Footprint and travel savings of approximately \$320k p.a.
- The Invermay farm budget is assumed to be applicable for the new deer farm in Canterbury.
- Concentration and collocation of science groups, executive and leadership teams resulting in staff transition costs of \$ [REDACTED] (modelled on [REDACTED] [REDACTED] Costs of managing the project during this period of \$3.0m are included.
- No dividends are paid until the completion of the Future Footprint project. Otherwise the Board will continue to operate its current dividend policy *“that it will return surplus cash to shareholders in the form of a dividend when no sound investment opportunities (including reinvestment, commercialisation, capital expenditure and the retention of important capabilities) exist.”* Accordingly surplus cash is being paid as a dividend. A bank balance of approximately \$10m is retained.

Future Footprint Results

Key results from the financial statements (Profit and Loss, Balance Sheet and Statement of Cash Flows) over the forecast period are shown below (refer Appendix 1 on page 86 for complete financial statements):

Table 8: FFP key financial results

	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
Revenue	163,075	166,362	174,970	180,209	185,810	193,648	203,075	213,521	225,854	240,373
EBITDAF	20,170	20,514	22,776	16,486	18,141	25,885	28,387	29,206	30,817	33,381
Funding Costs	(397)	(1,236)	(906)	59	38	(357)	(375)	(377)	(375)	(399)
NPAT	6,160	7,675	8,650	2,645	(2,198)	8,083	9,898	10,489	11,906	14,139
Taxation Paid	2,175	3,297	3,982	2,523	2,444	3,642	4,588	5,074	5,618	6,475
Dividend Paid	-	-	-	-	-	11,000	11,000	12,000	12,000	13,000
Net Capital Expenditure	(17,554)	29,624	40,764	30,222	(1,710)	11,500	11,500	11,500	11,500	11,500
Closing Cash/Loans	41,520	29,488	6,879	(9,162)	11,655	10,435	11,172	10,922	11,363	12,100
Total Fixed Assets	258,936	265,928	278,203	292,310	279,145	276,486	275,939	274,889	275,443	277,445
Total Equity	214,410	222,085	233,027	238,248	229,423	228,507	226,405	224,894	224,800	224,939

Associated core AgResearch SCI metrics are:

Table 9: FFP associated SCI metrics

	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
Operating Margin %	12.4%	12.3%	13.0%	9.1%	9.8%	13.4%	14.0%	13.7%	13.6%	13.9%
Operating Margin per FTE (\$000)	26.13	26.16	27.96	19.83	21.36	30.25	32.22	32.08	32.63	33.96
Revenue Growth	3.8%	2.0%	5.2%	3.0%	3.1%	4.2%	4.0%	5.1%	5.8%	6.4%
Quick Ratio	2.89	2.43	1.59	1.17	1.40	1.46	1.45	1.46	1.50	1.51
Capital Renewal	1.7	-2.9	-4.0	-2.5	0.1	-0.8	-0.8	-0.8	-0.8	-0.9
Equity Ratio %	81%	83%	84%	83%	82%	82%	82%	82%	82%	81%
Return on Equity %	2.9%	3.5%	3.7%	1.1%	-1.0%	3.5%	4.4%	4.7%	5.3%	6.3%
Adjusted Return on Equity %	4.9%	5.0%	5.2%	1.5%	-1.2%	4.5%	5.6%	6.0%	6.8%	8.1%

Future Footprint Summary

- The Business Case can proceed using the existing resources (under-utilised property sales, future profits and debt) of AgResearch.
- No additional funding is required from the Shareholder.
- The Net Present Value of the Future Footprint model over the period to FY2022 is \$33.6m (refer Appendix 5).
- The Net Present Value of the Future Footprint model in perpetuity is \$256m.
- Total dividends paid (\$59m as above) and provided are \$66m (refer Appendix 1).
- The outcome will have campuses at two agricultural innovation centres with two regional locations. Refer Economic Case for benefits.
- Cash accumulation can either be used for reinvesting for further science and innovation goals or to pay further dividends to the Shareholders.

Business as Usual Option One

BAU Option One Assumptions

Statement of assumptions underpinning the BAU Option One model:

- Farm assets are being rationalised through disposal of surplus capacity.

Table 10: Farm disposals for BAU Option One

Location	Sell Amount	Date
Kaitoke	[REDACTED]	March 2013
Flock House	[REDACTED]	June 2013
Winchmore	[REDACTED]	January 2014
Ballantrae	[REDACTED]	January 2014
Total	[REDACTED]	

- Disposal of surplus campus.

Table 11: Asset disposal for BAU Option One

Location	Sell Amount	Date
Wallaceville	[REDACTED]	March 2013

- Earthquake strengthening of identified buildings.

Table 12: Earthquake strengthening for BAU Option One

Location	Amount	Date
Lincoln	[REDACTED]	FY2014
Grasslands	[REDACTED]	FY2014
Total	[REDACTED]	

- Refurbishment of existing campuses

Table 13: Expenditure for BAU Option One

Location	Amount	Completion Date
Lincoln new build and upgrade of existing buildings	[REDACTED]	June 2016
Deferred maintenance work at Ruakura	[REDACTED]	June 2016
Upgrade of Buildings at Ruakura	[REDACTED]	June 2017
Upgrade of Buildings at Grasslands	[REDACTED]	June 2018

New Glasshouses at Grasslands	██████████	June 2015
Purchase from ██████████ of land and buildings at Grasslands.	██████████	March 2013
Upgrade of purchased buildings	██████████	June 2014
Total	██████████	

- Costs for alternative working environment for staff during the period
 - Ruakura ██████████
 - Lincoln ██████████
 - Grasslands ██████████
- Reduction in rental income at Lincoln due to tenant vacating in approximately June 2014 \$██████████.
- Revenue increases by a further step of 0.6% per annum to a maximum of 3% additional revenue in FY2022
- No dividends are paid until the completion of the building program. Otherwise the Board will continue to operate its current dividend policy *“that it will return surplus cash to shareholders in the form of a dividend when no sound investment opportunities (including reinvestment, commercialisation, capital expenditure and the retention of important capabilities) exist.”* Accordingly surplus cash is being paid as a dividend. A bank balance of approximately \$10m is retained.

BAU Option One Results

Key results from the financial statements (Profit and Loss, Balance Sheet and Statement of Cash Flows) over the forecast period are shown below (refer Appendix 2 on page 89 for complete financial statements):

Table 14: BAU Option One key financial results

	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
Revenue	163,075	166,296	174,706	180,039	186,048	192,948	200,817	209,767	219,918	231,418
EBITDAF	19,995	19,981	23,857	22,578	26,999	26,644	26,607	26,629	27,074	28,018
Funding Costs	(405)	(1,635)	(1,998)	(1,681)	(1,702)	(908)	(324)	(356)	(342)	(361)
NPAT	6,041	7,478	8,598	8,416	11,167	10,232	9,730	9,767	10,079	10,773
Taxation Paid	2,143	3,225	4,264	4,238	4,746	5,033	5,027	5,096	5,260	5,558
Dividend Paid	-	-	-	-	-	50,000	8,000	10,000	9,000	10,000
Net Capital Expenditure	(25,160)	10,789	31,572	21,491	15,661	13,468	11,500	11,500	11,500	11,500
Closing Cash/Loans	49,224	56,319	44,591	43,054	50,265	8,760	10,423	9,869	10,354	10,247
Total Fixed Assets	259,035	266,092	274,993	283,889	294,964	255,184	256,791	256,496	257,595	258,497
Total Equity	214,291	221,769	230,367	238,783	204,950	206,182	206,912	206,679	207,758	208,531

Associated core AgResearch SCI metrics are:

Table 15: BAU Option One associated SCI metrics

	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
Operating Margin %	12.3%	12.0%	13.7%	12.5%	14.5%	13.8%	13.2%	12.7%	12.3%	12.1%
Operating Margin per FTE (\$000)	25.90	25.48	29.29	27.15	31.79	30.64	29.81	29.01	28.60	28.64
Revenue Growth	3.8%	2.0%	5.1%	3.1%	3.3%	3.7%	4.1%	4.5%	4.8%	5.2%
Quick Ratio	3.16	3.39	2.93	2.81	1.20	1.44	1.47	1.48	1.52	1.55
Capital Renewal	-2.4	1.0	2.9	1.9	1.3	1.1	0.9	0.9	0.9	0.9
Equity Ratio	81%	83%	84%	84%	77%	75%	81%	81%	81%	81%
Return on Equity %	2.8%	3.4%	3.7%	3.5%	5.4%	5.0%	4.7%	4.7%	4.9%	5.2%
Adjusted Return on Equity %	5.0%	5.1%	5.4%	5.0%	7.2%	7.4%	7.0%	7.0%	7.2%	7.7%

BAU Option One Summary

- The Business Case can proceed using the existing resources (under-utilised property sales, future profits and debt) of AgResearch.
- No additional funding is required from the Shareholder.
- The Net Present Value of the BAU Option One model over the period to FY2022 is \$60.3m (refer Appendix 5).
- The Net Present Value of the BAU Option One model in perpetuity is \$221m.
- Total dividends paid (\$87m as above) and provided are \$92m (refer Appendix 2).
- The outcome will retain existing campuses and staff locations and therefore not achieve the benefits outlined in the Economic Case.
- Cash accumulation can either be used for achieving further science and innovation goals or to pay further dividends to the Shareholders.

Business as Usual Option Two

BAU Option Two Assumptions

Statement of assumptions underpinning the BAU Option Two model:

- Farm assets are being rationalised through disposal of surplus capacity.

Table 16: Farm disposals for BAU Option Two

Location	Sell Amount	Date
Kaitoke	[REDACTED]	March 2013
Flock House	[REDACTED]	June 2013
Winchmore	[REDACTED]	January 2014
Ballantrae	[REDACTED]	January 2014
Total	[REDACTED]	

- Disposal of surplus campus.

Table 17: Asset disposal for BAU Option Two

Location	Sell Amount	Date
Wallaceville	[REDACTED]	March 2013

- Earthquake strengthening of identified buildings.

Table 18: Earthquake strengthening for BAU Option Two

Location	Amount	Date
Lincoln	[REDACTED]	FY2014
Grasslands	[REDACTED]	FY2014
Total	[REDACTED]	

- Minimum refurbishment of existing campuses.

Table 19: Expenditure for BAU Option Two

Location	Amount	Completion Date
Lincoln new build and upgrade of existing buildings	[REDACTED]	June 2016
Deferred maintenance work at Ruakura	[REDACTED]	September 2017
New Glasshouses at Grasslands	[REDACTED]	June 2015
Purchase from [REDACTED] of land and buildings at Grasslands.	[REDACTED]	March 2013

Upgrade of purchased buildings		June 2014
Total		

- Costs for alternative working environment for staff during the period
 - Ruakura [REDACTED]
 - Lincoln [REDACTED]
- Reduction in rental income at Lincoln due to tenant vacating in approximately June 2014 \$[REDACTED] p.a.
- Revenue increases by a further step of 0.6% per annum to a maximum of 3% additional revenue in FY2022.
- Dividends paid until the completion of the building program are based on 60% of NPAT above \$5m and 80% of asset sales. Otherwise the Board will continue to operate its current dividend policy *“that it will return surplus cash to shareholders in the form of a dividend when no sound investment opportunities (including reinvestment, commercialisation, capital expenditure and the retention of important capabilities) exist.”* Accordingly surplus cash is being paid as a dividend. A bank balance of approximately \$10m is retained.

BAU Option Two Results

Key results from the financial statements (Profit and Loss, Balance Sheet and Statement of Cash Flows) over the forecast period are shown below (refer Appendix 3 on page 92 for complete financial statements):

Table 20: BAU Option Two key financial results

	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
Revenue	163,075	166,296	174,706	180,039	186,048	192,948	200,817	209,767	219,918	231,418
EBITDAF	20,295	20,281	24,157	25,978	25,049	26,080	26,607	26,629	27,074	28,018
Funding Costs	(425)	(988)	(759)	(535)	(558)	(331)	(345)	(352)	(339)	(358)
NPAT	6,271	7,277	8,034	10,394	9,370	9,950	10,338	10,360	10,670	11,367
Taxation Paid	2,203	3,207	4,104	4,706	4,594	4,701	4,966	5,092	5,246	5,536
Dividend Paid	-	34,000	9,000	2,000	15,000	8,000	10,000	10,000	9,000	10,000
Net Capital Expenditure	(27,091)	8,557	22,080	18,630	11,500	11,500	11,500	11,500	11,500	11,500
Closing Cash/Loans	51,413	26,416	14,539	15,137	9,366	10,592	10,338	9,784	10,281	10,193
Total Fixed Assets	259,293	232,124	231,591	240,444	235,203	237,219	238,041	238,879	241,121	243,175
Total Equity	180,521	178,797	184,831	192,225	185,595	185,545	186,883	187,243	188,913	190,280

Associated core AgResearch SCI metrics are:

Table 21: BAU Option Two associated SCI metrics

	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
Operating Margin %	12.4%	12.2%	13.8%	14.4%	13.5%	13.5%	13.2%	12.7%	12.3%	12.1%
Operating Margin per FTE (\$000)	26.29	25.87	29.66	31.24	29.49	29.99	29.81	29.01	28.60	28.64
Revenue Growth	3.8%	2.0%	5.1%	3.1%	3.3%	3.7%	4.1%	4.5%	4.8%	5.2%
Quick Ratio	1.41	1.69	1.71	1.67	1.44	1.41	1.46	1.46	1.50	1.52
Capital Renewal	-2.6	0.8	2.1	1.7	1.0	1.0	1.0	1.0	1.0	1.0
Equity Ratio	75%	73%	78%	80%	79%	79%	78%	78%	78%	78%
Return on Equity %	3.5%	4.1%	4.3%	5.4%	5.0%	5.4%	5.5%	5.5%	5.6%	6.0%
Adjusted Return on Equity %	6.0%	6.7%	7.0%	8.6%	7.7%	8.4%	8.7%	8.7%	8.9%	9.3%

BAU Option Two Summary

- The Business Case can proceed using the existing resources (under-utilised property sales, future profits and debt) of AgResearch.
- No additional funding is required from the Shareholder.
- The Net Present Value of the BAU Option Two model over the period to FY2022 is \$74.8m (refer Appendix 5).
- The Net Present Value of the BAU Option Two model in perpetuity is \$235m.
- Total dividends (\$107m as above) paid and provided are \$112m (refer Appendix 3).
- The outcome will retain existing campuses and staff locations and therefore not achieve the benefits outlined in the Economic Case.
- The company will not have fully achieved fit for purpose premises and significant capital expenditure will still be required in later years. This is not included within this Option.
- Cash accumulation can either be used for achieving further science and innovation goals or to pay further dividends to the Shareholders.

Comparison of Future Footprint and Alternative Options

Table 22: Net Present Value Comparisons

Model	NPV – 10 Years	NPV – In Perpetuity
Future Footprint	\$33.6m	\$256m
BAU Option One	\$60.0m	\$221m
BAU Option Two	\$76.0m	\$237m
SCI	\$45.0m	\$142m

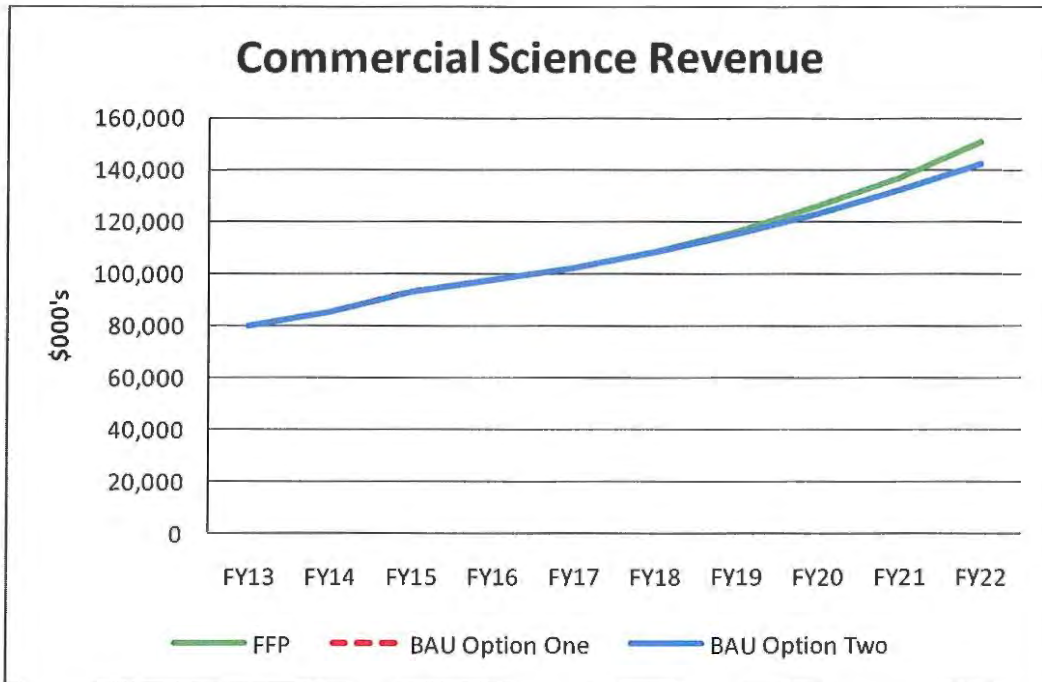
Note that all cash flows are included in NPV with the exception of dividends paid.

The BAU Options will not deliver the same economic benefits to the agricultural sector and New Zealand (refer Economic Case).

NPV calculations are shown in Appendix 5 on Page 100.

The following graphs highlight key financial aspects of the options modelled:

Figure 2: Commercial science revenue



Note: BAU Option One and BAU Option Two have the same revenue profile.

Figure 3: Net capital expenditure

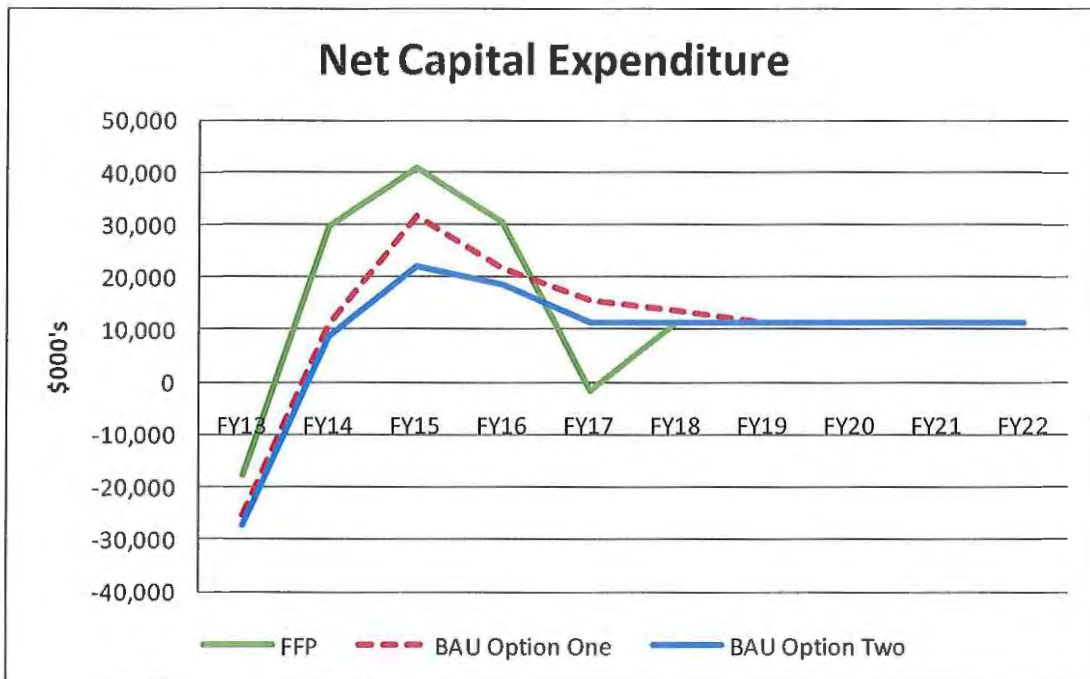


Figure 4: Closing bank position

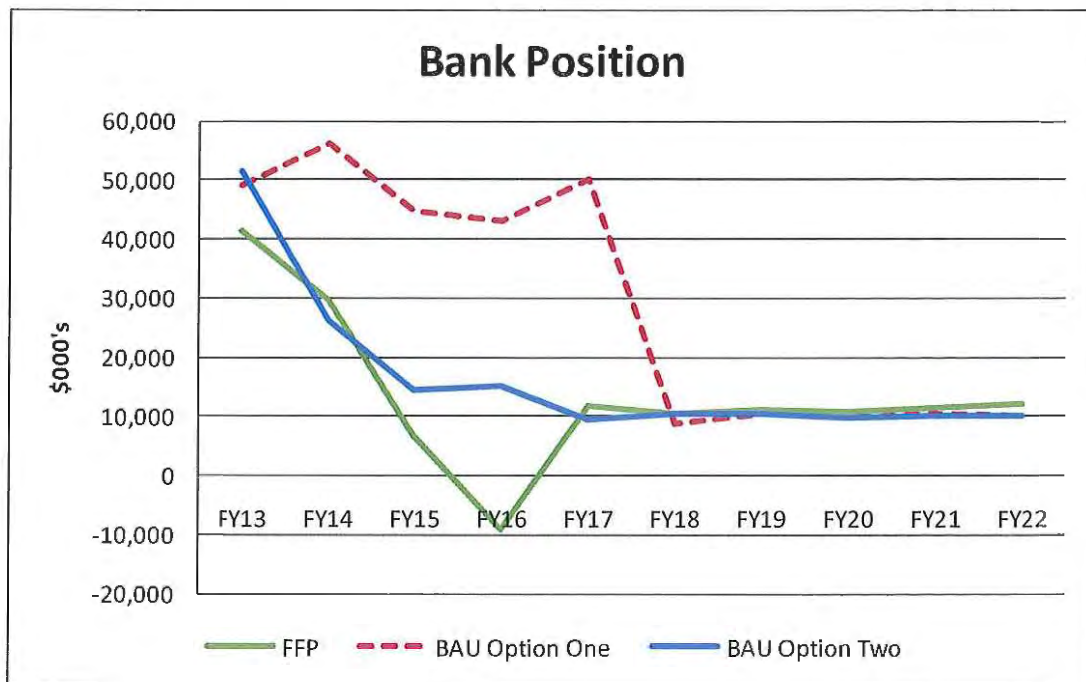
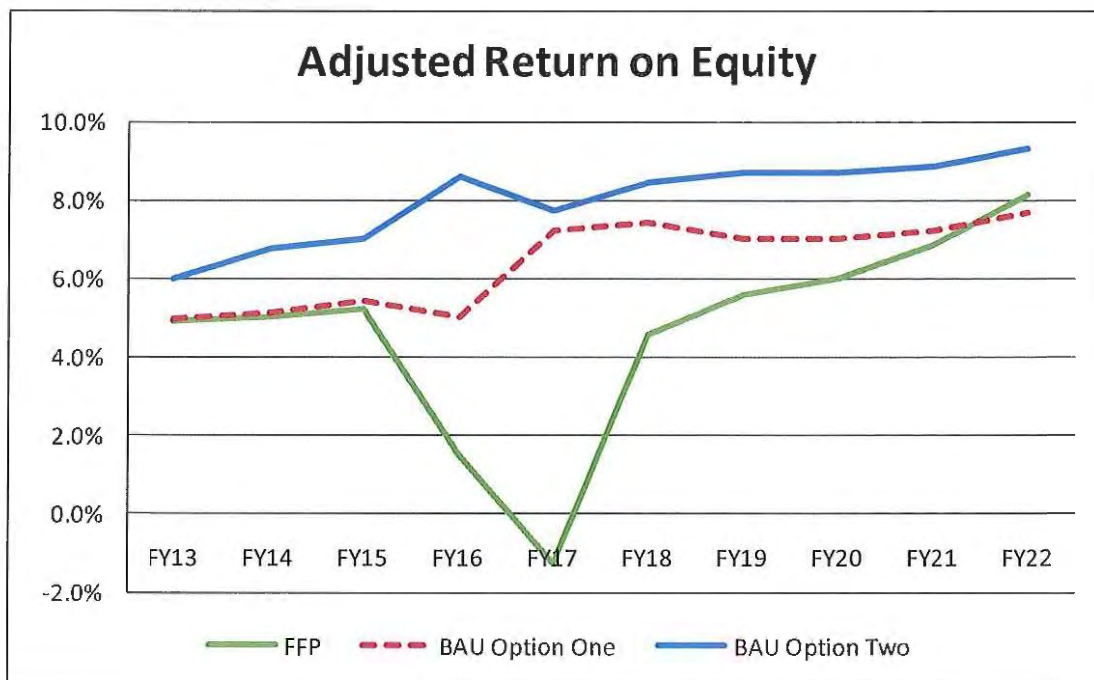


Figure 5: Adjust return on equity



Sensitivity Analysis

Sensitivity and risk analysis has been built around a best and worst case model from the expected FFP financial model.

Worst Case

Existing FFP model adjusted for:

- Reduction in realisation value of farm asset by 10%, increase in farm purchase costs by 10% and the retention of Winchmore farm as follows:

Table 23: Worst Case asset farm value acquisition and disposals

Location	Sell Amount	Purchase Amount	Date
Kaitoke			March 2014
Flock House			June 2013
Winchmore			Retained
Ballantrae			January 2015
[REDACTED]			March 2017
[REDACTED]			March 2017
[REDACTED]			November 2016
Total			

- Increases in cost of developing new campus assets by 10% and reduction in realisation value of excess campus space (except Wallaceville) by 10% as follows:

Table 24: Worst Case asset expenditure and disposal

Location	Sell Amount	Purchase Amount	Completion Date
[REDACTED]			March 2018
Wallaceville			March 2013
Lincoln current site (net of demolition and decontamination costs)			September 2017
Grasslands purchase from [REDACTED] land and buildings			March 2013
New facilities at Grasslands			March 2017
New Lincoln site and buildings			March 2017
Total			

- Increase in interest rates:

Table 25: Worst Case interest rates

	FY2013	FY2014	FY2015	FY2016	FY2017+
Overdraft and Term Loan	5.25%	6.75%	7.75%	8.75%	9.75%
Surplus cash	3.25%	3.50%	4.50%	5.50%	6.50%

Worst Case Results

Key results from the financial statements (Profit and Loss, Balance Sheet and Statement of Cash Flows) over the forecast period are:

Table 26: Worst Case key financial results

	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
Revenue	163,075	166,505	175,255	180,319	185,647	193,739	203,166	213,613	225,947	240,468
EBITDAF	19,262	20,135	22,562	16,323	21,544	20,804	26,926	27,694	29,252	31,762
Funding Costs	(375)	(1,010)	(755)	46	1,949	999	15	(551)	(664)	(673)
NPAT	4,955	6,787	8,534	2,333	(2,643)	4,662	8,301	9,261	10,748	12,967
Taxation Paid	2,169	3,256	3,933	2,508	1,862	2,767	3,780	4,336	4,936	5,858
Dividend Paid	-	-	-	-	-	-	-	7,000	12,000	12,000
Net Capital Expenditure	(11,319)	31,736	33,272	35,299	25,367	(389)	11,500	11,500	11,500	11,500
Closing Cash/Loans	35,172	20,462	5,674	(15,850)	(23,799)	(3,649)	7,054	11,208	11,060	12,073
Total Fixed Assets	255,646	261,773	273,482	290,385	297,477	280,087	285,341	288,180	287,665	289,514
Total Equity	210,930	217,302	228,797	230,352	230,060	235,318	241,618	239,879	238,627	238,594

Associated core AgResearch SCI metrics are:

Table 27: Worst Case associated SCI metrics

	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
Operating Margin %	11.8%	12.1%	12.9%	9.1%	11.6%	10.7%	13.3%	13.0%	12.9%	13.2%
Operating Margin per FTE (\$000)	24.95	25.66	27.68	19.62	25.35	23.88	30.03	29.91	30.48	31.81
Revenue Growth	3.8%	2.1%	5.3%	2.9%	3.0%	4.4%	4.9%	5.1%	5.8%	6.4%
Quick Ratio	2.65	2.10	1.55	1.13	1.20	1.22	1.50	1.46	1.47	1.49
Capital Renewal	1.1	-3.1	-3.2	-2.9	-1.7	0.0	-0.8	-0.8	-0.8	-0.8
Equity Ratio %	81%	83%	83%	81%	78%	81%	84%	84%	83%	83%
Return on Equity %	2.3%	3.1%	3.7%	1.0%	-1.1%	2.0%	3.4%	3.9%	4.5%	5.4%
Adjusted Return on Equity %	4.1%	4.7%	5.6%	1.5%	-1.6%	2.7%	4.6%	5.1%	6.0%	7.2%

Worst Case Summary

- The Net Present Value of the Worst Case model over the period to FY2022 is \$14.3m (refer Appendix 5).
- The Net Present Value of the Worst Case model in perpetuity is \$225m.
- Total dividends paid (\$31m as above) and provided are \$38m.
- The Business Case can proceed using the existing resources (under-utilised property sales, future profits and debt) of AgResearch.
- No additional funding is required from the Shareholder. Bank debt will peak at \$28.7m in December 2016.
- The outcome will have campuses at two agriculture innovation centres with two regional locations. Refer Economic Case for benefits.
- Cash accumulation can either be used for achieving further science and innovation goals or to pay a dividend to the Shareholders.

Best Case

Existing FFP model adjusted for:

- Increased realisation value from farm assets of 10% as follows:

Table 28: Best Case farm acquisition and disposal

Location	Sell Amount	Purchase Amount	Date
Kaitoke			March 2013
Flock House			June 2013
Winchmore			January 2014
Ballantrae			January 2014
██████████			March 2016
██████████			March 2016
██			December 2015
Total			

- Concentration and collocation of science groups, executive and leadership teams resulting in staff transition costs of ██████ (modelled on ██████ relocation and including attrition and retirements). Costs of managing the project during this period of \$3.0m.
- Decrease in costs of redeveloping campuses by 10% and an improvement in value of excess campus assets sold (except Wallaceville) by 10% as follows:

Table 29: Best Case asset expenditure and disposal

Location	Sell Amount	Purchase Amount	Completion Date
██████████			March 2017
Wallaceville			March 2013
Lincoln current site (net of demolition and decontamination costs)			September 2016
Grasslands purchase from ██████ ██████ land and buildings			March 2013
New facilities at Grasslands			June 2016
New Lincoln site and buildings			March 2016
Total			

Best Case Results

Key results from the financial statements (Profit and Loss, Balance Sheet and Statement of Cash Flows) over the forecast period are:

Table 30: Best Case key financial results

	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
Revenue	163,075	166,362	174,970	180,209	185,810	193,648	203,075	213,521	225,854	240,373
EBITDAF	22,444	21,503	22,930	17,840	18,137	25,885	28,387	29,206	30,817	33,381
Funding Costs	(399)	(1,349)	(1,175)	(409)	(500)	(377)	(364)	(366)	(368)	(388)
NPAT	8,535	8,790	8,955	4,089	(1,545)	8,304	10,095	10,687	12,106	14,337
Taxation Paid	2,175	3,321	4,074	2,923	2,788	3,884	4,832	5,318	5,861	6,720
Dividend Paid	-	-	-	-	15,000	11,000	12,000	11,000	12,000	12,000
Net Capital Expenditure	(20,451)	26,290	37,893	27,052	(3,031)	11,500	11,500	11,500	11,500	11,500
Closing Cash/Loans	44,435	35,880	16,474	4,987	12,301	10,860	10,341	10,836	11,027	12,508
Total Fixed Assets	263,918	273,001	285,608	293,959	275,790	273,301	271,888	271,973	272,667	275,803
Total Equity	219,376	229,092	240,340	248,668	225,708	224,012	223,107	221,794	221,900	222,237

Associated core AgResearch SCI metrics are:

Table 31: Best Case associated SCI metrics

	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
Operating Margin %	13.8%	12.9%	13.1%	9.9%	9.8%	13.4%	14.0%	13.7%	13.6%	13.9%
Operating Margin per FTE (\$000)	29.07	27.42	28.15	21.46	21.35	29.73	31.68	31.58	32.12	33.45
Revenue Growth	3.8%	2.0%	5.2%	3.0%	3.1%	4.2%	4.9%	5.1%	5.8%	6.4%
Quick Ratio	3.00	2.67	1.94	1.52	1.42	1.44	1.47	1.47	1.51	1.51
Capital Renewal	1.9	-2.6	-3.7	-2.2	0.2	-0.8	-0.8	-0.8	-0.9	-0.9
Equity Ratio %	82%	84%	84%	84%	83%	82%	82%	82%	81%	81%
Return on Equity %	3.9%	3.8%	3.7%	1.6%	-0.7%	3.7%	4.5%	4.8%	5.5%	6.5%
Adjusted Return on Equity %	6.7%	5.5%	5.2%	2.2%	-0.9%	4.8%	5.9%	6.2%	7.1%	8.4%

Best Case Summary

- The Net Present Value of the Best Case model over the period to FY2022 is \$45.2m (refer Appendix 5).
- The Net Present Value of the Best Case scenario in perpetuity is \$264m.
- Total dividends paid (\$73m as above) and provided are \$81m.
- The Business Case can proceed using the existing resources (under-utilised property sales, future profits and debt) of AgResearch.
- No additional funding is required from the Shareholder.
- The outcome will have campuses at two agriculture innovation centres with two regional locations. Refer Economic Case for benefits.
- Cash accumulation can either be used for achieving further science and innovation goals or to pay further dividends to the Shareholders.

Comparison of Expected, Worst and Best Case Results

The following graphs highlight key financial aspects of the sensitivities modelled:

Figure 6: Net capital expenditure flows

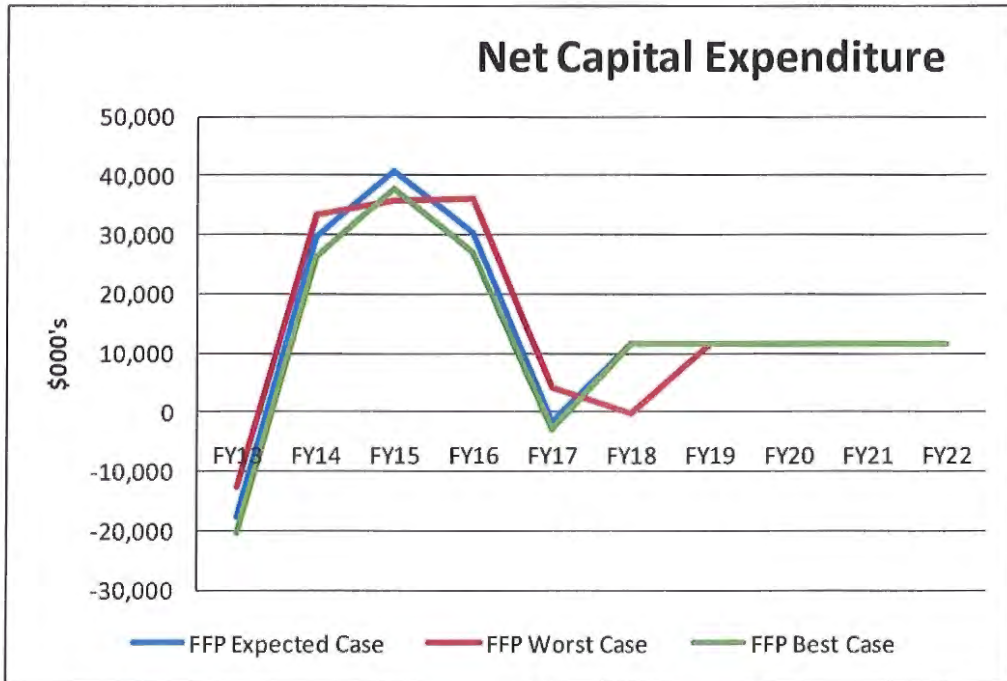


Figure 7: Closing bank position

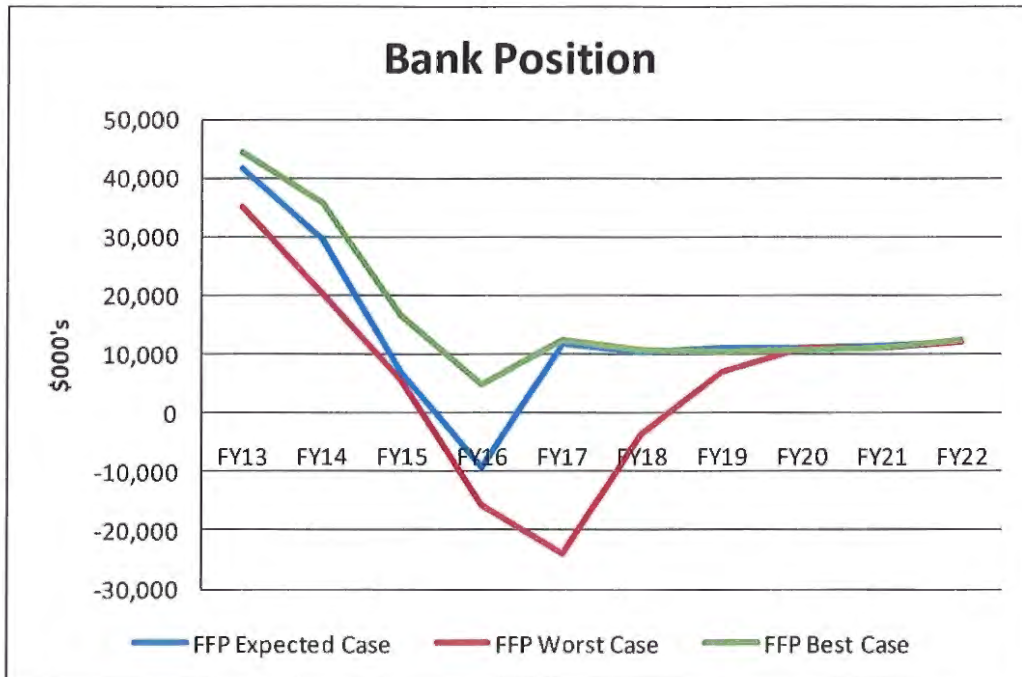
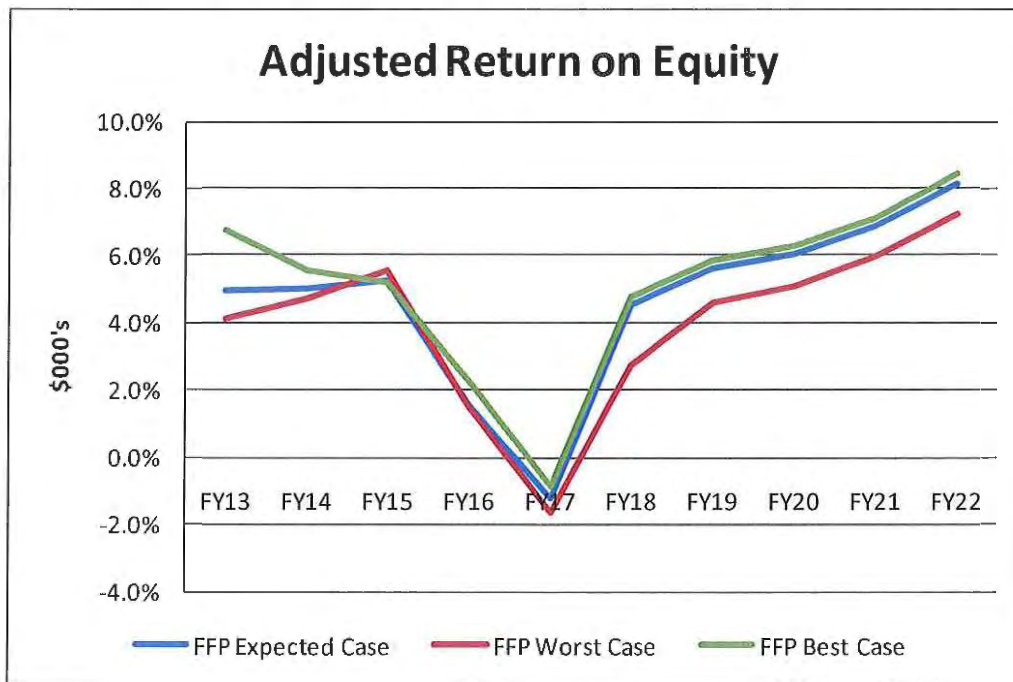


Figure 8: Adjusted return on equity



Then average Adjusted Return on Equity % over the period to FY22 is:

Future Footprint	4.6%
Worst Case	4.0%
Best Case	5.0%

Table 32: Net Present Value Comparisons

Model	NPV – 10 Years	NPV – In Perpetuity
Future Footprint	\$33.6m	\$256m
Best Case	\$45.2m	\$264m
Worst Case	\$14.3m	\$225m

Note that all cash flows are included in NPV with the exception of dividends paid.

NPV calculations are shown in Appendix 5 on Page 100.

Risk Analysis and Risk Mitigation

Risks associated with the Future Footprint project and risk mitigations are:

- **Staff relocation.** The Business Case assumes that ■ of staff will relocate. The company will mitigate attrition risk by working closely with affected staff during the transition. ■
- **Revenue risk.** There is risk of revenue loss due to an inability to deliver science or an inability to deliver science on time during the FFP project. This has been mitigated by ensuring that AgResearch has suitable facilities at all times during the project to undertake its work and the establishment of a Science Continuity Team (Refer Management Case).
 - **Timing of asset sales.** As a government-owned entity, AgResearch is required to meet a number of legislated requirements before the company can sell land-based assets. The ability to get these requirements approved in a timely manner is outside the control of AgResearch. The risk can be mitigated by staging capital expenditure projects to run after the sale of key assets.
 - **Value of asset sales.** The sale value of each asset is determinate on prevailing market conditions at the time of sale. The significant assets for sale are farm land. A determinate in this value is the current financial state of the agricultural sector. The risk can be mitigated by not selling or delaying the sale of assets.
 - **Increase in building costs.** It is anticipated that pressure may come on building costs across New Zealand due to the rebuild of Christchurch. This may be particularly the case at the Lincoln campus. This has been mitigated by starting the building process as soon as possible after the Ministers approve the Business Case. This however is also contingent on asset sales occurring at a suitable time so that those funds can be used in the building process.
 - **Revaluation of Land and Buildings might lead to initial write down or impairment of assets.** While such an event would not have a cash impact, it would have an effect on the profit reported in any given year. The company is mitigating this risk by building at two innovation centres (at Grasslands and Lincoln) where in those locale there are already science hubs, and where there is higher demand for the buildings being built. Collocation will also mean that the buildings are fully utilised.

Commercial Case

This section provides a summary of the proposed property and staff changes to deliver the Future Footprint outcomes. It provides details of each current location and the various options considered.

It also highlights the interdependency of the various activities, as we are unable to move staff to our proposed agriculture innovation centres, apart from relatively small numbers, until capacity is created, with a completed refurbishment and/or new construction at the target destination.

Lastly, it covers the intended approach to the various commercial activities such as procurement required to carry out the project.

It is important to note that for this section, and the Business Case in general, all staff numbers quoted are based on current staff numbers, and these have been used to model future space and facility requirements, and corresponding costs.

It is acknowledged these will change for various reasons such as attrition, retirements, science needs and stakeholder needs over the next three to five years however we do not see these being significant changes.

We have additional capacity and flexibility in all our Future Footprint campus locations should this eventuate.

High Level Changes to Our Existing Infrastructure

We plan to do the following:

- Establishment over the next five years of two large agriculture innovation centres; at Grasslands and Lincoln, and with continuation of two regional sites at Ruakura and Invermay.
 - Grasslands will be focussed on forage, animal nutrition and metabolism and health, agricultural greenhouse gases, human nutrition and food assurance and innovation research. We expect to have approximately 370 staff based at this centre.
 - Lincoln will be focussed on South Island farm (dairy, sheep, beef and deer) systems, sustainability and environment, animal genomics/genetics and reproduction and textiles research. We expect to have approximately 270 staff based at this centre.
 - Ruakura and Invermay will be focussed on regional farm systems, land-use, sustainability and environmental research. We expect to have approximately 100 staff at our Ruakura campus and 30 staff at our Invermay campus.
- Investment in construction and/or refurbishment of world class fit-for-purpose science facilities in Lincoln and Grasslands.
- Retention of sufficient capacity at Ruakura and Invermay should it be needed in the future by AgResearch or other stakeholders.
- Collocation of science teams and alignment with key stakeholders to agriculture innovation centres wherever possible, together with executive, leadership and support teams resulting in staff relocations.

- Disposal of surplus assets freed up from collocation and realignment activities and investment in construction projects.
- Farm assets rationalised through disposal where research is no longer conducted.
- Building assets rationalised as collocation occurs, through disposal.
- This project, if approved, will result in the transition over the next five years of approximately 200 AgResearch staff. The Management section of this Business Case outlines the intended approach to managing these transitions while minimising the risk. The following table shows the campus staff numbers, after transitions, if the changes occurred as currently modelled.

Table 33: Modelled staff locations – Science/Non science split

	Ruakura	Grasslands	Lincoln	Invermay	Total
Science	77	303	170	23	573
Non Science	27	61	98	3	189
Total	104	364	268	26	762

Summary of Staff Changes and Transitions by Major Campus

Table 34: Main Campus staff number changes (excludes Farm staff and Abattoir staff)

Location	Current	Proposed location for current people	Difference
Ruakura	266	104	-162
Grasslands	267	364	+97
Lincoln	116	268	+152
Invermay	113	26	-87
Total	762	762	0

Table 35: Science/Non-Science Transitions – for existing employees

Science and Non-Science Transitions		
From Current Location	To Future Location	Transitions – before retirements, resignations
Ruakura	Grasslands/Hopkirk	86
	Lincoln	76
Grasslands	Lincoln	14
Lincoln	Grasslands	19
Invermay	Grasslands	6
	Lincoln	81
Total Science and Non-Science Transitions		282

Transitions

Given the data above, the total number of positions transitioned between sites would be 282 without any allowance for attrition and retirements; however when allowing for these for the five year period of the project the number of staff required to relocate would be 196, made up of 76 scientists, 70 science support and 50 non-science staff.

Proposed Property Changes

Arrow Strategy was engaged to manage the development of space requirements and the estimated capital cost for each campus. They also used Labworks Architecture to assist with the space planning and Rawlinsons, Quantity Surveyors, to provide the cost estimates. We have taken the data we have to date (in particular, science and non-science staff numbers at new locations) and modelled the associated space requirements. To refine the requirements Science Group Leaders were requested to provide the space requirements for their teams, and where possible identify opportunities to share laboratory and specialist facilities with other groups.

In some cases we propose to simply rationalise and refurbish existing buildings; while in others, we have modelled new buildings.

The following table shows the space utilisation per FTE that will be achieved by the Future Footprint Project property changes. It compares this to current AgResearch data and other New Zealand and offshore benchmarks.

Table 36: Space utilisation per FTE

Description	Science Space m ² /person	Non-Science and Office and Admin Space m ² /person	Total Space inc. Glasshouses, Animal Plant and Specialist Facilities m ² /person
AgResearch – Current	25.66	51.89	87.00
AgResearch – Applied Future Footprint	24.74	11.50	67.00
Scion 2012	25.80	10.00	n/a
Food Nutrition and Health Massey 2012	22.30	3.60	n/a
International 2012 [National Assoc. Biochemistry and Biological Sciences]	25.00	Variable	n/a
NZ Treasury Administrative and Support Services Benchmarking 2011	n/a	19.50	n/a

For the purposes of modelling capital costs, the following rates have been applied.

Table 37: Modelled capital costs

Type of Space	Major Upgrade Rate/m ² exc. GST	New Build Rate/m ² exc. GST
Science Non-Science/Shared		

The following pages describe the property changes proposed for each campus. A site map showing the current and proposed site configuration for each main campus is also provided.

Ruakura

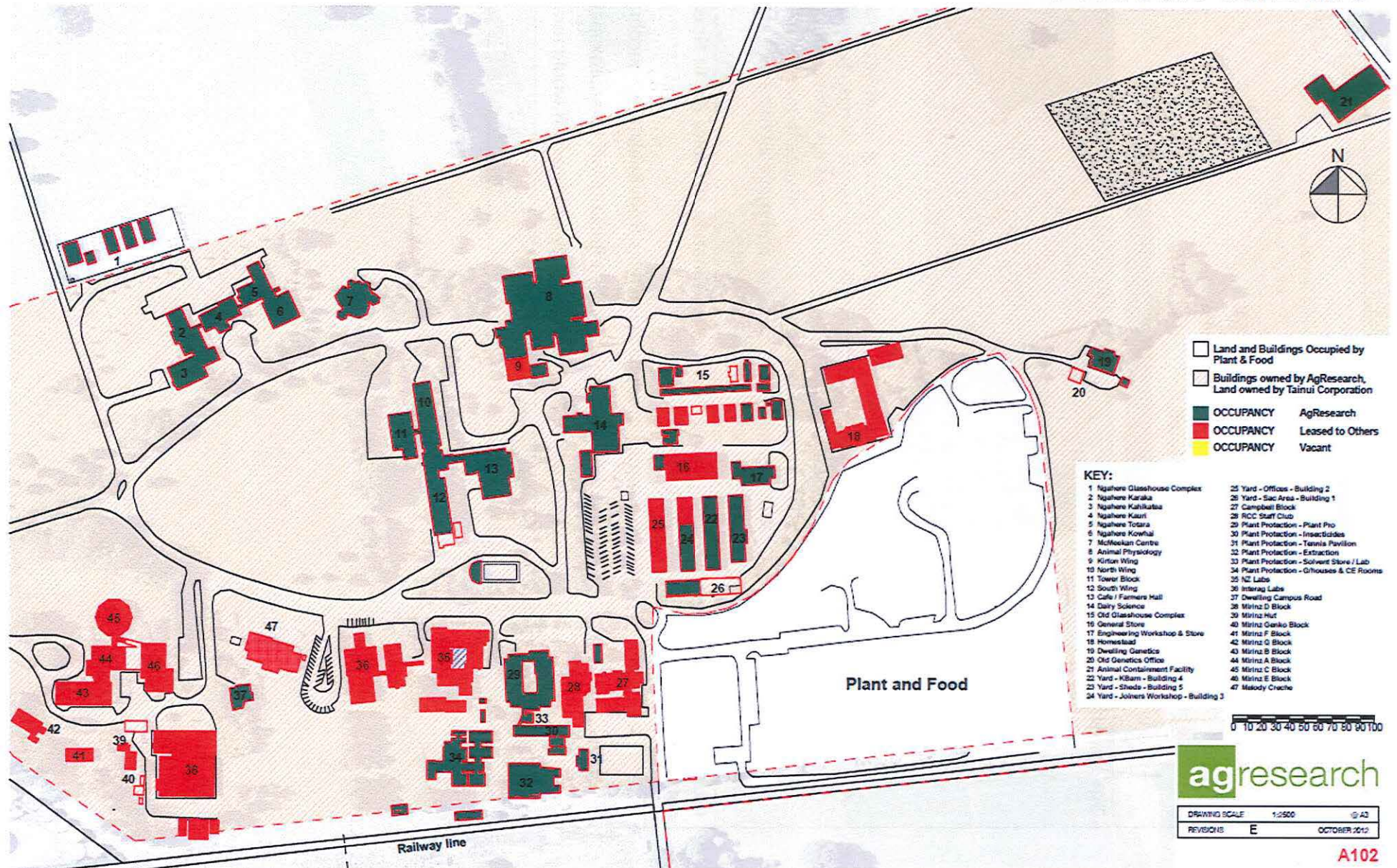
Research Environment:

AgResearch's facilities in the Waikato are at Ruakura located in Hamilton. The site has a small number of Plant and Food Research personnel and borders the Innovation Waikato Park. Under the Future Footprint proposal Ruakura will continue as a regional campus with predominantly environmental and farm systems capability, focussing on the dairy sector in the Waikato.

Area of focus	Discussion						
Current situation	<ol style="list-style-type: none"> 1. AgResearch own the buildings on the Ruakura site. 2. The site's land is owned by Waikato-Tainui Te Kauhanganui Incorporated (WTTKI) with whom we have a perpetual lease. [REDACTED] 3. 46 buildings form AgResearch's Ruakura campus providing 32,133 m². They were built between 1910 and 1998. 4. Current occupancy of AgResearch staff is 266. 5. Current tenancy: <table border="0" style="margin-left: 20px;"> <tr> <td>AgResearch</td> <td style="text-align: right;">67%</td> </tr> <tr> <td>Leased to others</td> <td style="text-align: right;">27%</td> </tr> <tr> <td>Unoccupied</td> <td style="text-align: right;">6%</td> </tr> </table> 6. The largest complex, central Tower Block and its North and South Wings, is structurally sound and has a seismic assessment of greater than 67% New Building Standard (NBS). 7. There are maintenance issues with the external cladding of two of the main buildings which cannot be addressed without vacating the buildings. 	AgResearch	67%	Leased to others	27%	Unoccupied	6%
AgResearch	67%						
Leased to others	27%						
Unoccupied	6%						
Proposed property configuration	<ol style="list-style-type: none"> 1. Continue to lease the whole campus from WTTKI and lease surplus space to external tenants. This has been very successful to date, [REDACTED] 2. Science teams and non science support remaining at Ruakura will be collocated in existing accommodation which has been recently refurbished. 3. Undertake maintenance work on Tower Block [REDACTED] 						

	<p>4. Proposed tenancy:</p> <table> <tr> <td>AgResearch</td> <td>16%</td> </tr> <tr> <td>Leased</td> <td>84%</td> </tr> <tr> <td>Unoccupied</td> <td>0 %</td> </tr> </table> <p>5. [Redacted]</p>	AgResearch	16%	Leased	84%	Unoccupied	0 %
AgResearch	16%						
Leased	84%						
Unoccupied	0 %						
Options considered	<p>1. [Redacted]</p> <p>2. We considered centralising all remaining AgResearch staff into the Tower Block and its North and South Wings. However, recent investment in the facilities for some of the teams who will remain at this campus currently occupy makes it more viable to leave those teams where they are, and move all remaining staff into the adjacent North and South wings.</p>						
Proposed people configuration	<p>1. Relocation away of approximately 162 roles (86 to Grasslands and 76 to Lincoln).</p> <p>2. Relocation of support functions from Ruakura to Lincoln.</p> <p>3. Population for AgResearch at Ruakura will be approximately 104.</p> <p>4. A number of Farm and Property and site staff would remain.</p>						
Financial impacts	<p>1. Capital impact – nil</p>						

RUAKURA CURRENT SITE MAP



RUAKURA

FUTURE FOOTPRINT OPTION SITE MAP



Grasslands

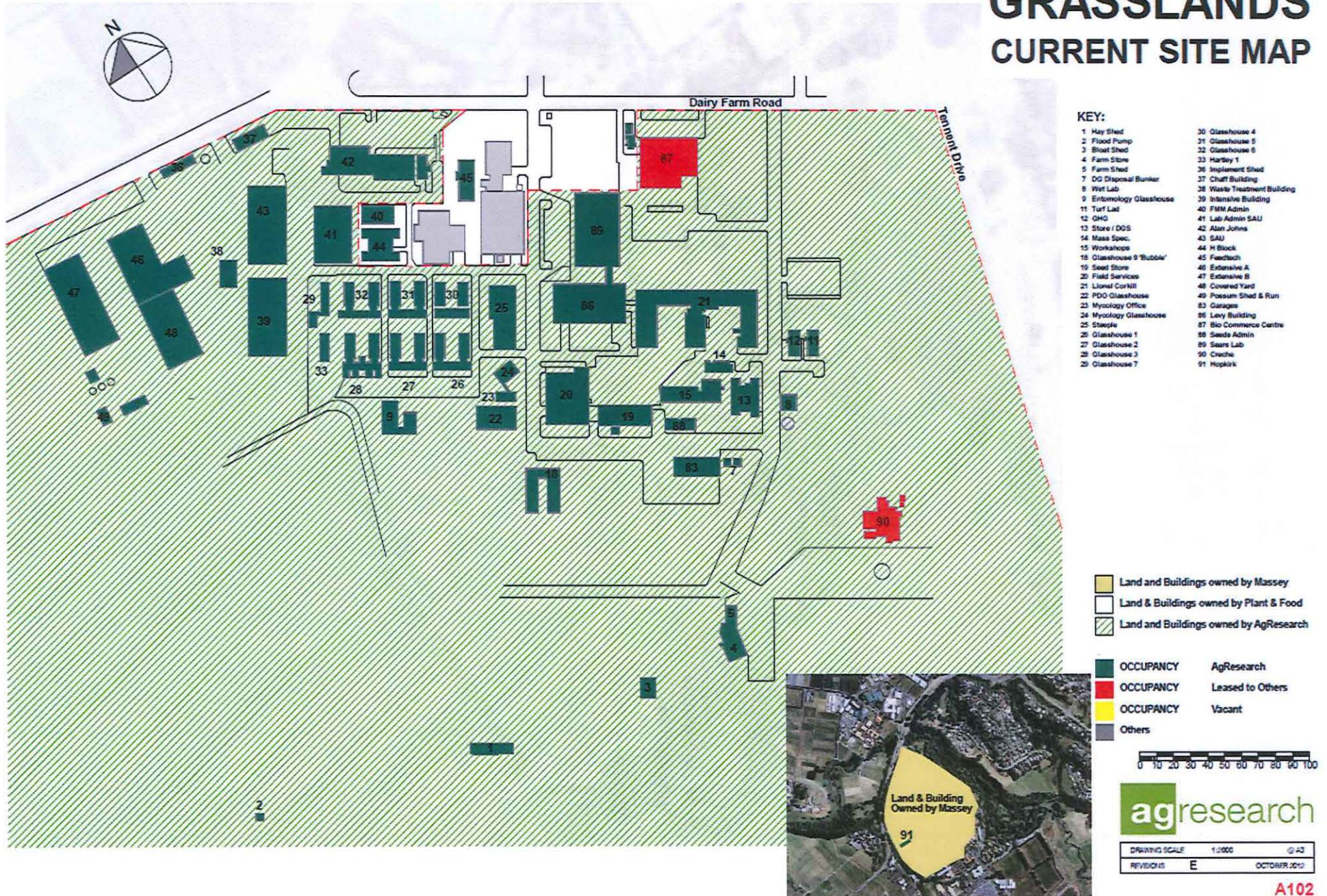
Research Environment:

AgResearch's facilities in Palmerston North are located adjacent to Plant and Food Research and Fonterra, in a research hub. It is the centre of AgResearch's Forage Improvement, Animal Nutrition and Health, as well as Food and Bio-based Products Science groups. The campus is in close proximity to Massey University, being directly over the road from the Turitea Campus. The Hopkirk facility is owned by Massey University and is located on its campus but is largely populated with AgResearch staff. Under the Future Footprint proposal Palmerston North is one of two innovation centres.

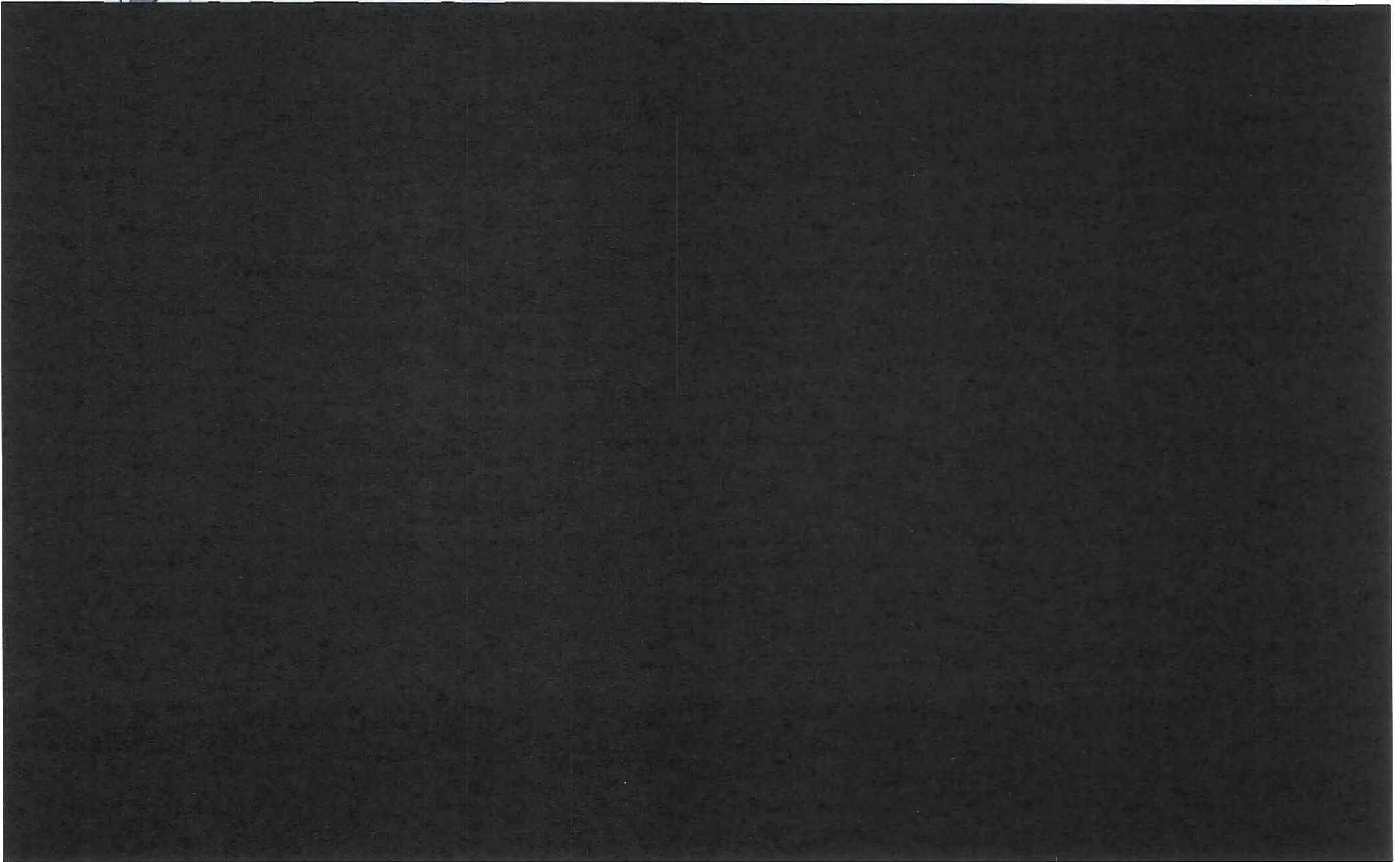
Area of focus	Discussion						
<p>Current situation</p>	<ol style="list-style-type: none"> 1. AgResearch owns the land and buildings on the Grasslands site, except for 640m² currently leased from Plant and Food Research. 2. The Hopkirk Institute laboratory and office facility (2,987m²) located at Massey University is leased from Massey University. 3. The property leased from Plant and Food Research is directly adjacent and surrounded by AgResearch-owned facilities. 4. 49 buildings form AgResearch's Grasslands campus providing 23,090 m². They were built between 1930 and 2006. 5. Current occupancy by AgResearch staff is 267 (including Hopkirk). 6. Current tenancy: <table border="0" style="margin-left: 20px;"> <tr> <td>AgResearch</td> <td style="text-align: right;">92%</td> </tr> <tr> <td>Leased</td> <td style="text-align: right;">7%</td> </tr> <tr> <td>Unoccupied</td> <td style="text-align: right;">1%</td> </tr> </table> 7. Seismic assessments have identified three buildings as requiring further investigation and potential remedial work to structurally strengthen. Two of those are well utilised and depending on the specific strengthening requirements, age and the difficulty in converting them to efficient buildings could make them uneconomical for continued long term use. 8. There will be approximately 97 additional staff on site and this will create the need for additional laboratory, office and other facilities. 9. The current glasshouse facilities on the site are substandard. They have become increasingly difficult to sustain as containment facilities. 	AgResearch	92%	Leased	7%	Unoccupied	1%
AgResearch	92%						
Leased	7%						
Unoccupied	1%						

<p>Proposed property configuration</p>	<p>1. [REDACTED]</p> <p>2. Construction of a new science building.</p> <p>3. Population for AgResearch at Grasslands and Hopkirk will increase to approximately 364 people.</p> <p>4. Building capacity would increase by 4863m² to 27953m².</p> <p>5. Proposed tenancy:</p> <table data-bbox="619 653 925 782"> <tr> <td>AgResearch</td> <td>96%</td> </tr> <tr> <td>Leased</td> <td>4%</td> </tr> <tr> <td>Unoccupied</td> <td>0%</td> </tr> </table>	AgResearch	96%	Leased	4%	Unoccupied	0%
AgResearch	96%						
Leased	4%						
Unoccupied	0%						
<p>Options considered</p>	<p>1. We have considered not purchasing [REDACTED] property and instead, constructing a larger new building to provide all the additional space required.</p> <p>[REDACTED]</p>						
<p>Proposed people configuration</p>	<p>1. Relocation of approximately 97 people into Grasslands and Hopkirk.</p>						
<p>Financial impacts</p>	<p>1. Capital impact – [REDACTED]</p>						

GRASSLANDS CURRENT SITE MAP



GRASSLANDS FUTURE FOOTPRINT OPTION SITE MAP



Lincoln

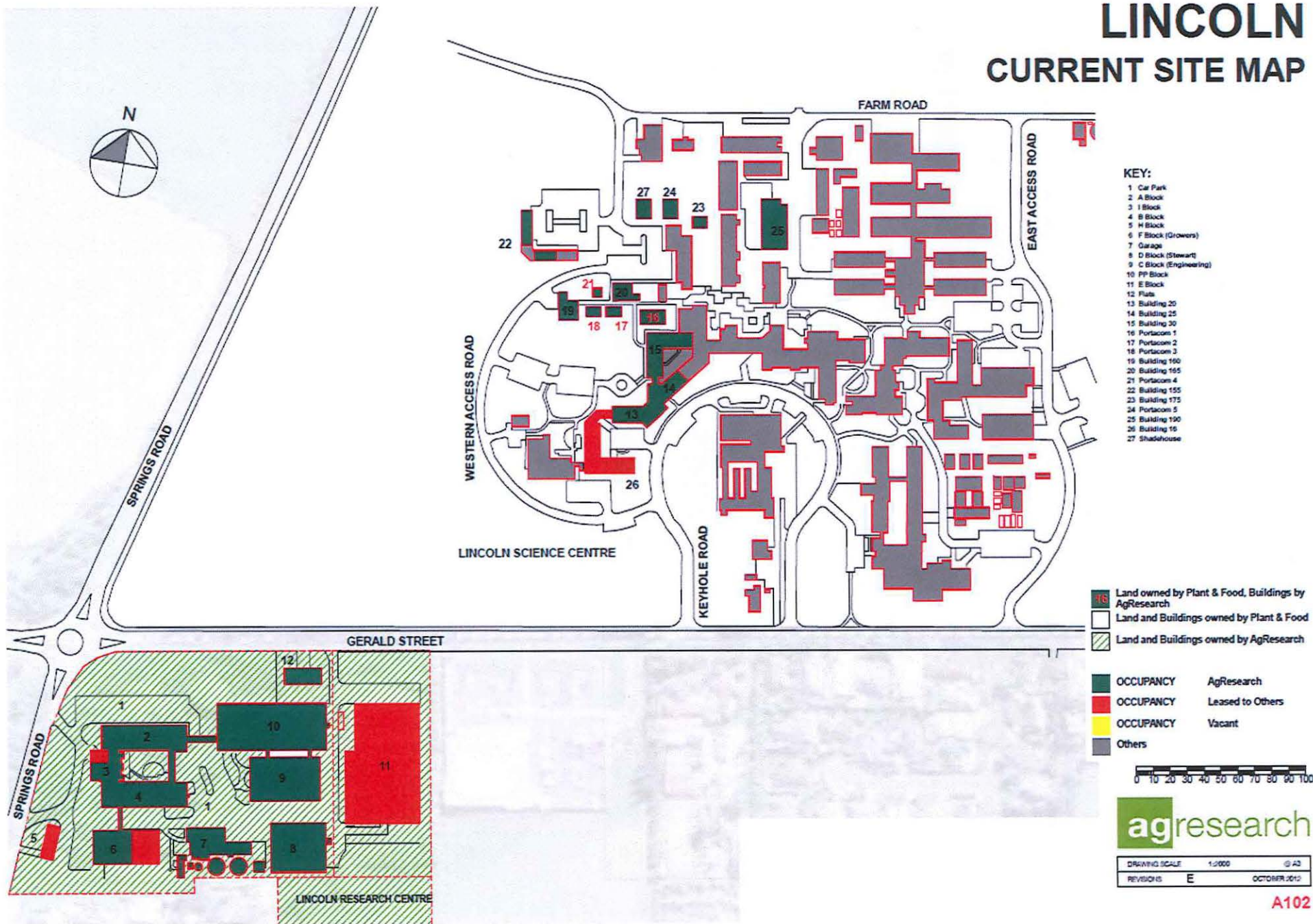
Research Environment:

AgResearch's facilities in Lincoln are located adjacent to Plant and Food Research, Landcare Research, DairyNZ and Lincoln University. Our staff at Lincoln are currently located on two sites, the campus we own, acquired through the acquisition of Canesis in 2007, and in leased accommodation on the Plant and Food Research site across the road. AgResearch's facilities in Lincoln are located across the road from Lincoln University. Under the Future Footprint proposal Lincoln is one of two innovation centres.

Area of focus	Discussion						
Current situation	<ol style="list-style-type: none"> 1. AgResearch owns land and 13,001m² of buildings and leases a further 2,135m² from Plant and Food Research. 2. Of the 25 buildings, 15 are owned and 10 are leased from Plant and Food Research providing a total capacity of 15,136m². They were built between 1930 and 1990. 3. Current AgResearch occupancy is 116. 4. Current tenancy: <table style="margin-left: 20px;"> <tr> <td>AgResearch</td> <td>65%</td> </tr> <tr> <td>Leased</td> <td>31%</td> </tr> <tr> <td>Unoccupied</td> <td>4%</td> </tr> </table> 5. There are seismic issues with three of the main buildings that will need to be addressed depending on the outcome of the detailed seismic assessments. 	AgResearch	65%	Leased	31%	Unoccupied	4%
AgResearch	65%						
Leased	31%						
Unoccupied	4%						
Proposed property configuration	<ol style="list-style-type: none"> 1. The proposed increase of approximately 152 staff (60% science and 40% non-science) will represent significant growth of laboratory and office accommodation as well as new animal facilities. Also [REDACTED] have indicated a willingness to collocate additional staff with AgResearch. For this Business Case we have modelled this on a tenancy basis, but this is to be confirmed. 2. Proposed tenancy: <table style="margin-left: 20px;"> <tr> <td>AgResearch</td> <td>94%</td> </tr> <tr> <td>Leased [REDACTED]</td> <td>6%</td> </tr> </table> <p>Population for AgResearch at Lincoln will increase to approximately 268 people, together with potentially another [REDACTED].</p> 3. The amount of space required to relocate staff from the accommodation leased from Plant and Food Research plus the new space required for the proposed future footprint increase is not able to be accommodated in buildings on the current site. 4. The preferred option is to purchase land [REDACTED] and construct a new building that is leading edge, efficient and supports the collaborative working 	AgResearch	94%	Leased [REDACTED]	6%		
AgResearch	94%						
Leased [REDACTED]	6%						

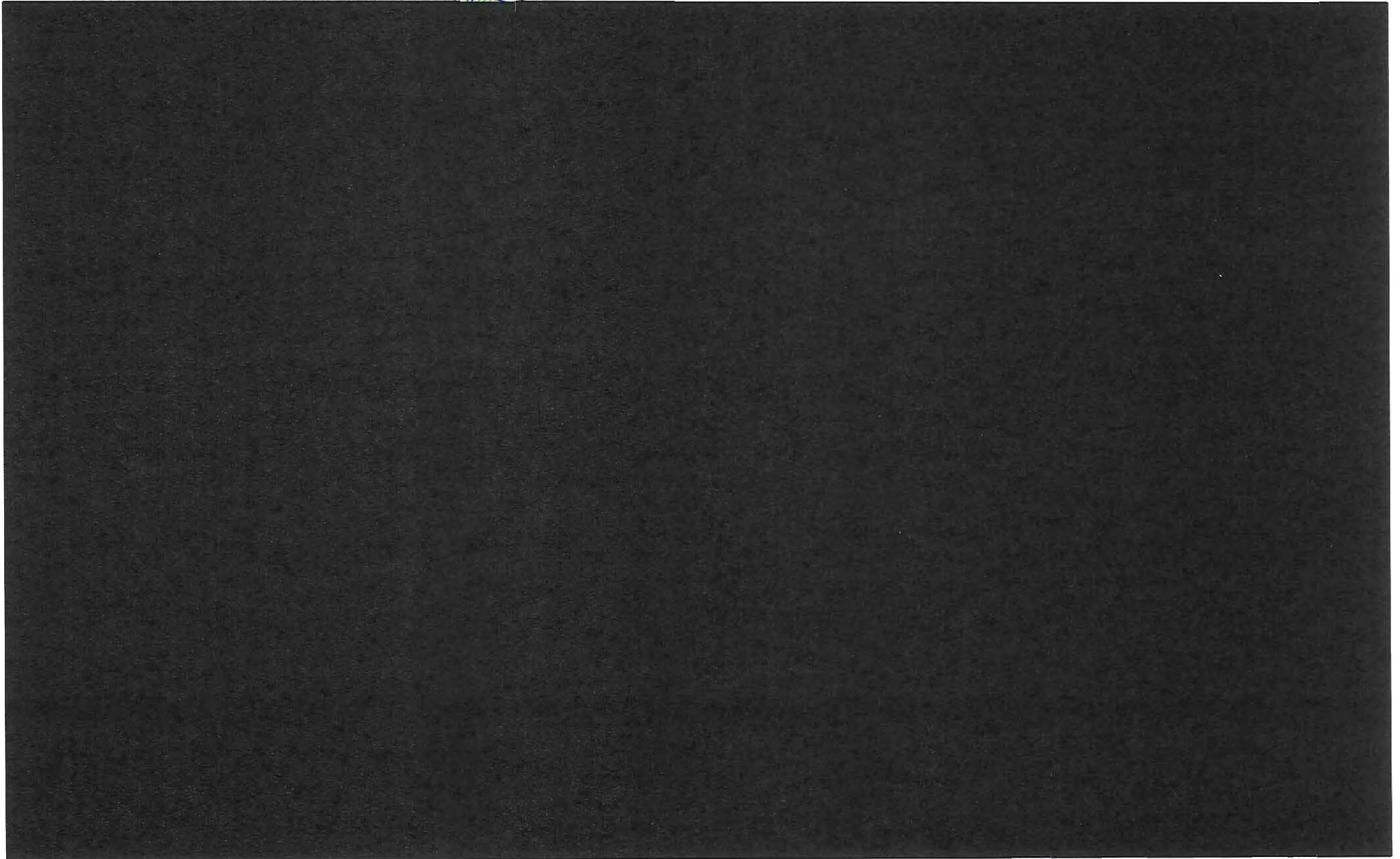
	<p>environments we want to achieve. This achieves a pan-CRI synergy.</p> <ol style="list-style-type: none"> 5. This building would be one of the first Future Footprint projects and would create the capacity that would enable us to begin the relocation of staff. 6. Discussion has commenced with the other CRIs and Lincoln University to take a master planning approach to the broader innovation centre concept.
Options considered	<ol style="list-style-type: none"> 1. Build on existing site – the current site and condition of buildings would not be suitable for significant new build or refurbishment activity to accommodate an additional 152 people, in terms of size and the design and condition of older buildings. Also moving to [REDACTED]. 2. Move to Lincoln University building – this has been reviewed and discussed with Lincoln University given they may have major rebuilding activities. We have agreed that the potential size and needs of AgResearch would not be suited to the Lincoln site given the type of facilities needed and current and future potential growth in our needs.
Proposed people configuration	<ol style="list-style-type: none"> 1. Relocation of approximately 152 people into Lincoln, [REDACTED].
Financial impacts	<ol style="list-style-type: none"> 1. Capital impact – [REDACTED]

LINCOLN CURRENT SITE MAP



LINCOLN

FUTURE FOOTPRINT OPTION SITE MAP



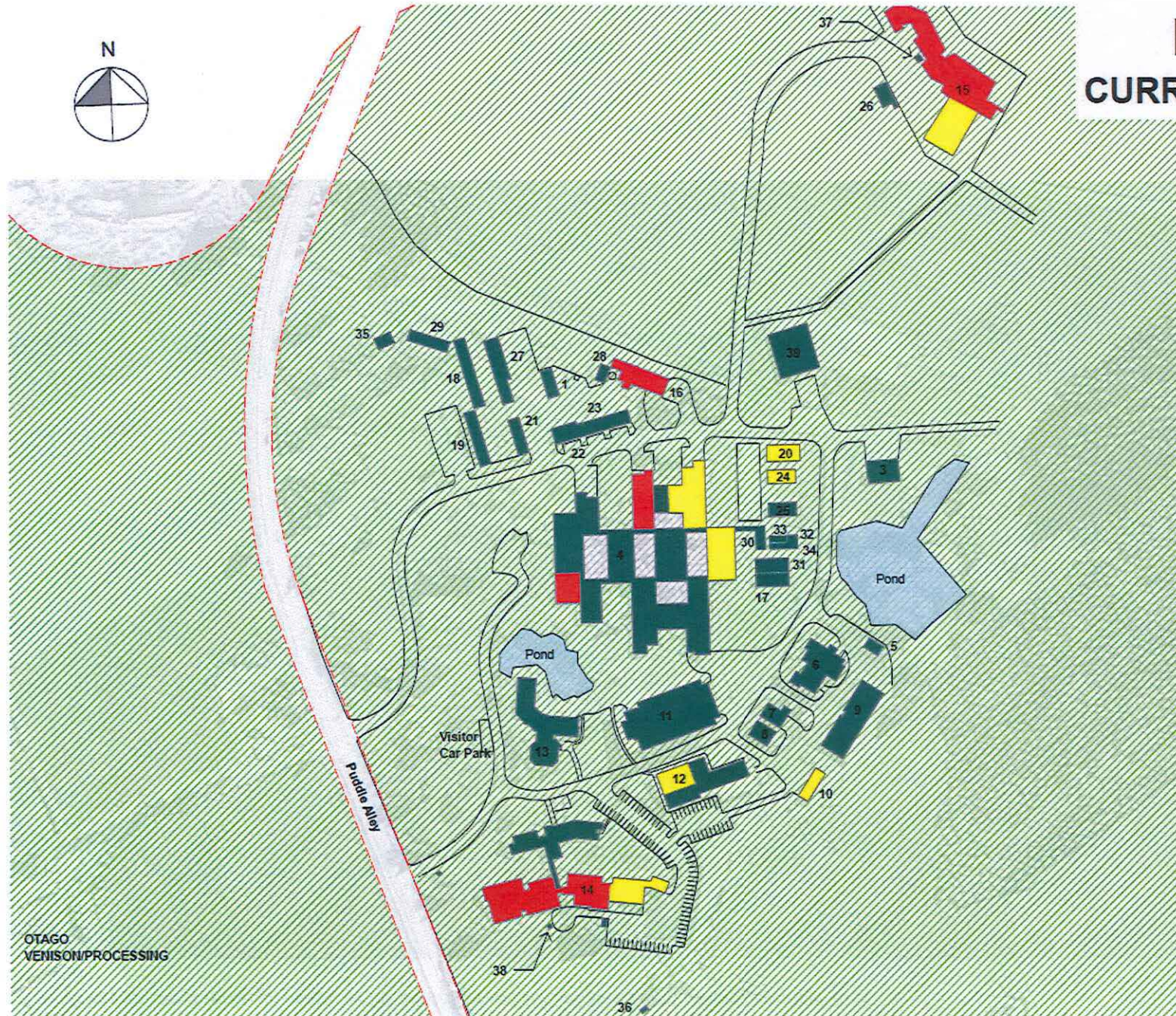
Invermay

Research Environment:

AgResearch's facilities in Dunedin are at the Invermay campus located at Mosgiel. Under the Future Footprint proposal Invermay will continue as a regional campus with predominantly environmental and farm systems capability focussing on the dairy sector in the Otago/Southland region.

Area of focus	Discussion						
Current situation	<ol style="list-style-type: none"> 1. AgResearch own the buildings and land on the Invermay site. 2. 34 buildings form AgResearch's Invermay campus providing 14,174 m². They were built between 1970 and 2008. 3. Current occupancy with AgResearch staff is 113. 4. Current tenancy: <table border="0" style="margin-left: 20px;"> <tr> <td>AgResearch</td> <td style="text-align: right;">62%</td> </tr> <tr> <td>Leased</td> <td style="text-align: right;">13%</td> </tr> <tr> <td>Unoccupied</td> <td style="text-align: right;">25%</td> </tr> </table> 5. All buildings are structurally sound and have seismic assessments of greater than 67% NBS. 	AgResearch	62%	Leased	13%	Unoccupied	25%
AgResearch	62%						
Leased	13%						
Unoccupied	25%						
Proposed property configuration	<ol style="list-style-type: none"> 1. Population at Invermay will reduce to approximately 30. 2. The reduction in staff numbers will require significantly less space than we currently have on campus. [REDACTED] 3. We will retain capacity at Invermay for possible expansion should this be required by holding a small number of buildings including the Christie Building (our most modern facility with capacity of approximately 50). [REDACTED] 						
Options considered	<ol style="list-style-type: none"> 1. Moving completely off the campus – however, we need research capability to service the Otago/Southland dairy sector, and can continue to do this from Invermay. Also we would lose value from our most recently built buildings if they were vacated and declared surplus at this stage as well as losing capacity for potential future changes. 						
Proposed people configuration	<ol style="list-style-type: none"> 1. The staff numbers at Invermay will reduce from 113 staff to approximately 26 science staff as others are relocated to other campuses. 						
Financial impacts	<ol style="list-style-type: none"> 1. Capital impact – [REDACTED] 						

INVERMAY CURRENT SITE MAP



KEY:

- 1 Amenities Block (Farm)
- 3 Development Workshop
- 4 Allison Building
- 5 Dangerous Goods
- 6 Store
- 7 Boiler House
- 8 Block L
- 9 Block K
- 10 Relocated Garage
- 11 Christie Building
- 12 Block J
- 13 Cullen Building Reception
- 14 Waingona Building
- 15 Maungaha Building
- 16 CutSloan Building
- 17 Glasshouse 4A
- 18 Garage Farm Area
- 19 Implement Shed 03
- 20 Glasshouse 00
- 21 Implement Shed 01
- 22 Farm Store
- 23 Farm Workshop
- 24 Glasshouse 01
- 25 Glasshouse 02
- 26 Garage Block E
- 27 Amenities Block
- 28 Cool Room Garage
- 29 Glasshouse 05
- 30 Shade House
- 31 Glasshouse 4B
- 32 Glasshouse 3B
- 33 Glasshouse 3A
- 34 Glasshouse 3C
- 35 Glasshouse 6
- 36 Pump House
- 37 DG block E
- 38 DG Block A
- 39 Woolshed

Land & Buildings owned by AgResearch

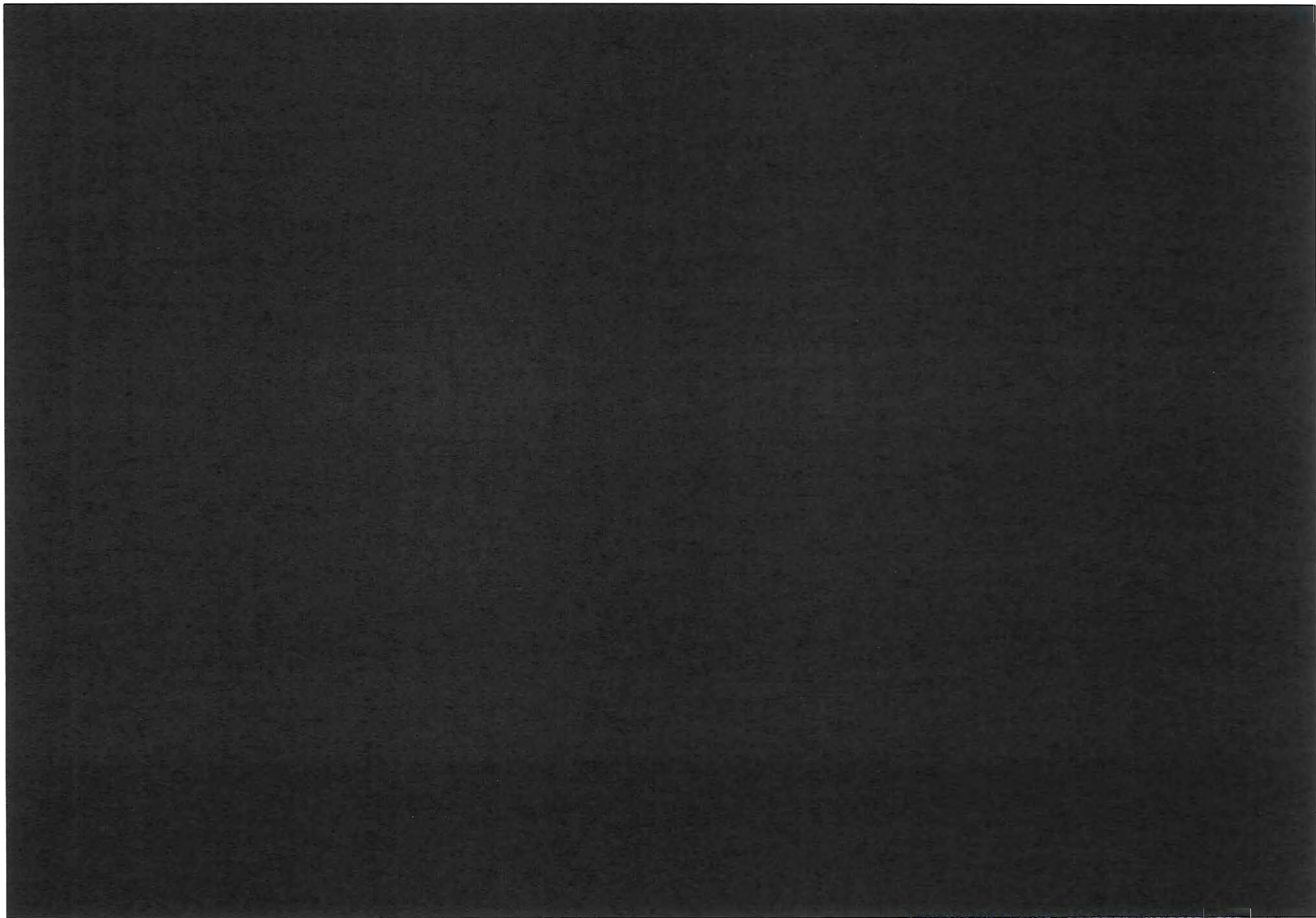
OCCUPANCY AgResearch

OCCUPANCY Leased to Others

OCCUPANCY Vacant



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REVISIONS E OCTOBER 2012



Procurement

Procurement associated with this project will involve a number of key transactions at different phases in the project. Main activities include asset sales, land purchases, and building design and construction, and/or refurbishment. Activities associated with procurement will all be governed by AgResearch’s Procurement Policy and Procedures, and overseen and managed by the Project Steering Committee.

Table 38: Procurement strategy

Area of Procurement	Strategy
Asset sales	<p>Asset sales will be managed through the existing process for CRI asset disposal. Assets to be sold are:</p> <ul style="list-style-type: none"> • Farms, as per the farm strategy • [REDACTED] • [REDACTED]
Land purchases	<p>This project will require the purchase of [REDACTED] additional land [REDACTED]. The purchase will be managed through existing procurement processes.</p>
Appointment of Design Team	<p>Future Footprint provides the opportunity to create new unique research working environments. Traditional research environment design is inefficient in both building utilisation and collaboration between researchers. The challenge is to create effective shared laboratory space that is well utilised and that links to the other facilities required by the science teams. These team spaces should also link or provide common space for other research teams to promote interaction and joint initiatives.</p> <p>The design also needs to be flexible and scalable to cope with future expansion and/or changing needs.</p> <p>Appointment of a design team will be preceded by the development of a design brief. Design team selection will be based on track record, an understanding of the international trends in research working environments and an enthusiasm to create new and exciting solutions.</p>
Design approach	<p>Each location will have its own unique requirements that will range from conventional design and build to innovative conversions of existing buildings. We will treat each campus as a separate project in terms of procuring the refurbishment of existing building or construction of new builds but the design will follow an overall concept developed by the design team.</p> <p>A master planning approach will be taken with the involvement of other innovation centre stakeholders.</p> <p>The design will ensure the necessary level of seismic strengthening is achieved in refurbishments.</p>
New building and Refurbishment	<p>A Property Project Manager would be appointed within the Property work stream during the ‘design development’ phase of the project to oversee the activities associated with development and finalisation of the building design, tendering process and building activities of the project.</p> <p>While each campus will be treated as a separate project we will be looking to leverage opportunities for economies of scale.</p>
Relocation	<p>With the scale of relocations occurring we would plan to negotiate</p>

Services	preferable arrangements and pricing.
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Procurement Plans – Proposed Implementation Timescales

It is anticipated that the various implementation milestones to be agreed with the supplier(s) will be as follows should the Business Case proposal proceed:

Table 39: Procurement timetable

Procurement Milestone	Approximate Date
Leading Change Course	November 2012
Architectural design	Appoint March 2013
Quantity surveying – pricing	Appoint March 2013
Property project management	Appoint March 2013
Sale of Wallaceville site	March 2013
Land and building purchase – Palmerston North	March 2013
Land purchase – Lincoln	March 2013
Sale of Kaitoke Farm	March 2013
Grassland [REDACTED] refurbishment	March 2013 – June 2014
Design Development	March/June 2013
Preparing for Change Training	May 2013
Sale of Flock House Farm	June 2013
New building tender process – Lincoln and Grasslands	November/December 2013
Sale of Ballantrae Farm	January 2014
Sale of Winchmore Farm	January 2014
Building project commences – Grasslands	June 2014
Building project commences – Lincoln	March 2014
[REDACTED]	December 2015
Relocation of employees to new destinations	January 2016
Sale of Lincoln surplus	September 2016
[REDACTED]	March 2016
[REDACTED]	March 2017
Refurbishment of Ruakura	March 2017
Leasing of Ruakura	As buildings vacated

Required Services

The required services are:

Table 40: Required services

Services and outputs	Quality of services and outputs
Architectural design	Building and refurbishment designs in keeping with the project drivers of collocation, collaboration, asset efficiency/optimisation, fit for purpose and future proofing
Quantity surveying – pricing	Accurate and realistic pricing
Property project management	Effective management of stakeholders, contractors and project deliverables to achieve property development on time and within budget
New building construction	Buildings built to specifications on time and within budgets and with least disruption to existing science delivery
Existing building refurbishment	Refurbishment built to specifications on time and within budgets and with least disruption to existing science delivery
Learning and Development – Leading change course	Development and delivery of an effective leading change course to leaders within the organisation.
Learning and Development – Change readiness course	Development and delivery of an effective preparing for change course to employees within the organisation.
Relocation Services	Cost effective and efficient delivery of relocation services for employees and their families.

Redacted version for the purposes of review by the Education and Science Select Committee.

Management Case

Planning for Successful Delivery

The most significant aspects to successful delivery of the Future Footprint project are:

- the disposal of property and land in the required timeframes;
- the planning design and execution of construction and refurbishment activities; and
- the relocation of approximately 200 people to concentrate them in the two agriculture innovation centres while still delivering on contracted science outcomes.

All of these need well planned and executed project plans and change management.

This section describes the project structure and intended change management approach that AgResearch would implement to maximise successful delivery of the project, and therefore achievement of outcomes expected.

It also covers the current thinking of the seven phases of the project envisaged over the next five years.

Project Management and Governance Structure

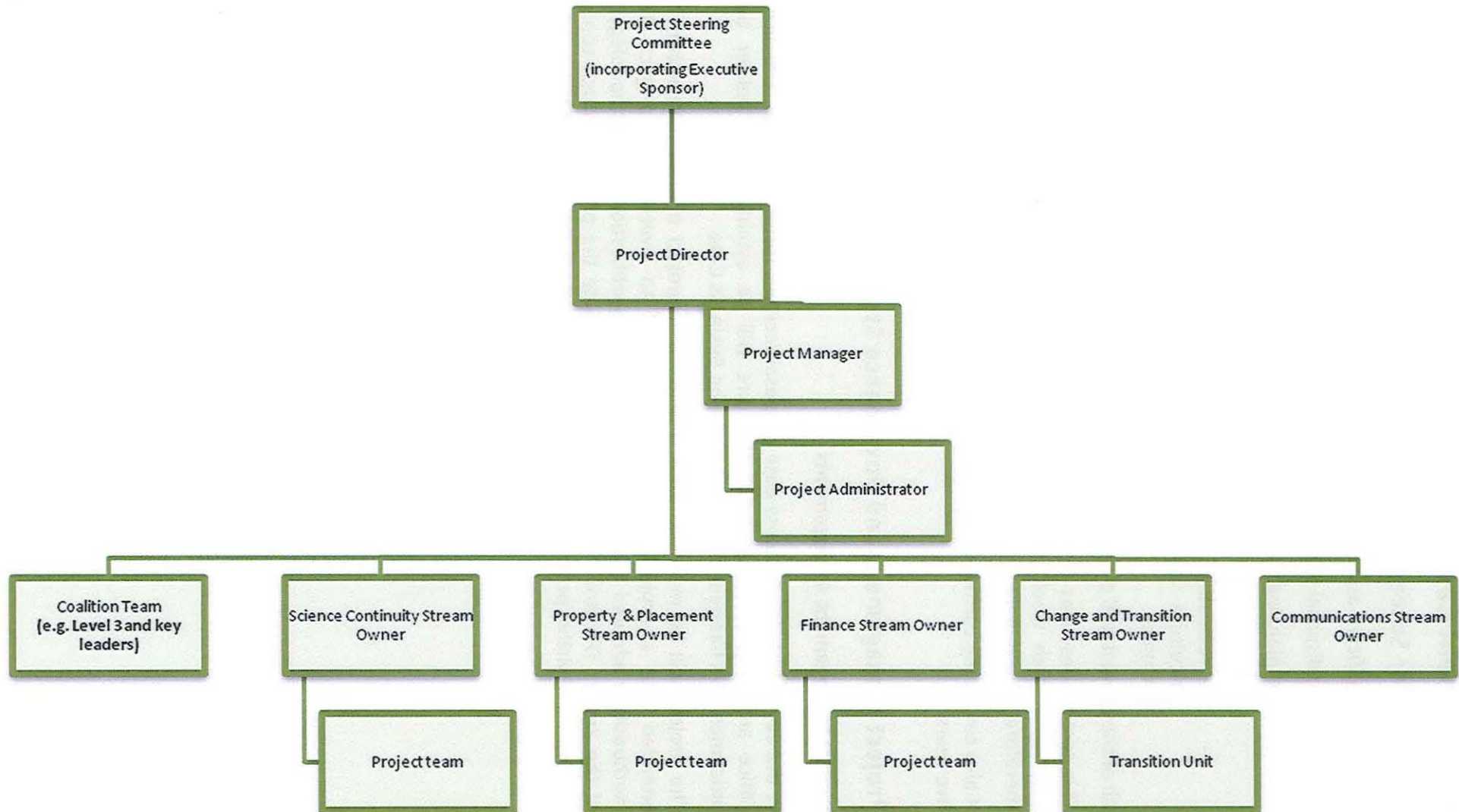
Project Management Arrangements

In the event that this Business Case proposal receives formal approval, a dedicated Project Office and project management structure will be established to deliver the required outcomes. This has been budgeted for in the Business Case.

The project will be managed using a recognised project management methodology. It is intended that a Project Director be recruited to oversee this project. The specific methodology adopted will be dependent on the qualification and methodology experience of the Project Director. The methodology will guide the project through controlled, well managed and visible processes to achieve the desired results and benefits.

Proposed Project Governance

Figure 9: Project Governance



The **Project Steering Committee** is accountable for the overall project delivering the benefits to AgResearch. This committee will consist of members of the Executive Team along with a Board representative. This group has overall accountability for the project, risks, and delivering the agreed business benefits to stakeholders and our shareholders. One member of the Executive Team will be the **Project Sponsor**, who will be responsible for overseeing the project with accountability for project delivery.

A **Project Director** will be recruited who will have accountability for the co-ordination and delivery of project outcomes. The Project Director will be accountable to the Project Steering Committee, and will have delegated authority to oversee the project and manage the project budget. All purchasing decisions will be subject to AgResearch's standard procurement and delegation processes.

A **Project Manager** will have responsibility for project planning, activity co-ordination, documentation and administration associated with the project.

A **Coalition Group** will be formed with representation from management and key influencers in the organisation. They will provide a link to the wider organisation, champion the project and provide an additional communications and advocacy channel for the project to the broader organisation. Their specific role will be in providing context, guidance and input to key project deliverables. Final decisions on project matters will sit with the Project Steering Committee or delegated representatives.

Key work streams will be established and a **Project Stream Owner** will be appointed for each. They will be responsible for executing tasks and producing deliverables for the stream they represent as outlined in the Project Plan. They will be supported by Project Teams – the membership of which may change as the project progresses.

Project streams will be:

- Property – disposal and investment, design and build, with specialist Property Project Management resources hired.
- Change/Transition Management.
- Communication.
- Science Continuity.
- Finance.

The **Science Continuity** stream will be tasked with responsibility for ensuring the continuity of delivery of research projects through the period of transition. This will involve quantifying the projects affected by relocations, identifying and timetabling relocation activities around key milestones to ensure that people, resources and infrastructure are available to meet our contractual project commitments with minimal disruption.

Critical to the delivery of transition activities for the project will be the establishment of a **Transition Unit** in the Change and Transition stream. A dedicated team will be established to manage the activities associated with transitioning staff. A key target for this team is to ensure our key people are successfully transitioned. This team will be critical to Future Footprint's success.

They will have responsibility for:

- fostering and developing relationships with affected staff to assist them with the transition (working closely with their leaders).
- gathering and collating resource material for information packs for employees.
- establishing resource rooms on campuses for staff to seek information.

- liaising with science teams and project teams on timing around relocations.
- arranging and coordinating site visits for staff and families.
- providing advice to staff on destination locations and spouse career opportunities.
- coordinating activities associated with transitioning staff.
- creating opportunities for staff involvement in transition activities.
- providing a contact point for staff families.
- where necessary, being an employee advocate.

It is likely that this group would be established with both AgResearch and external staff. AgResearch staff would be seconded from their normal roles for the period of the project.

The costs associated with this governance structure and work streams are included in the Future Footprint budget.

Project Phasing and Milestones

As outlined above a comprehensive project plan would be developed upon approval of the Business Case and formation of project resources, and then managed accordingly through the governance and project management approach described above.

While we have yet to do detailed planning, at a high level the project is likely to run over seven phases and is estimated to take approximately four and a half to five years.

Table 41: Proposed project timetable

Phase	Timeframe	Key activities and outcomes
Phase I – Preparing the Business Case	(Aug – Oct 2012)	<ul style="list-style-type: none"> Establishing future property footprint. Models for capital expenditure, operational costs and transition costs. Preparation and submission of Business Case and communications strategy.
Phase II – Preparing for Change	(Oct 2012 – Ministerial approval)	<ul style="list-style-type: none"> Development of leaders in leading change. Building vision for the change. Establishment of project governance. Development of project implementation plan. Establishment of project teams. Finalising guidelines and policies.
Phase III – Quantifying and consulting on the change	(Mar 2013 – Jun 2013)	<ul style="list-style-type: none"> Staff consultation. People impact assessment, costing and communication of potential location. Information gathering on individuals' situations (homeowner/no. dependents); collateral given out (relocation policies etc). Quantifying science delivery priorities to maintain science continuity.
Phase IV – Getting underway	(Jul 2013 – Dec 2013)	<ul style="list-style-type: none"> Developing detailed campus design. Executing land purchase transactions. Detailed building schedule developed. New build/refurbishment tendering and contract negotiation. Change readiness development for affected staff. 'Early-adopter' relocations. Science continuity planning.
Phase V – Transition	(Jan 2014 – Dec 2015)	<ul style="list-style-type: none"> Building contract executed and underway. Change policies confirmed. People notified of specific relocation timeframe. Firm commitments on relocation by Jun 2015. Initial wave of relocations, if facilities available at destination. Lab and equipment relocation planning. Science continuity planning.
Phase VI – Implementation	(Jan 2016 – Dec 2016)	<ul style="list-style-type: none"> Building work well underway – early or interim work completed. Relocation programme confirmed. People begin to relocate.
Phase VII – Reflect and Review	(Mar 2017)	<ul style="list-style-type: none"> Building work completed. Most relocations complete. Post project review undertaken. Benefit tracking and reporting implemented.

Change and Transition Management Planning

The aim of the transition management stream is to effect the change in a managed and systematic way to achieve the best outcomes for AgResearch's future business. For the Future Footprint project to be successful, the transition management process needs to encompass organisational preparedness, legal compliance, data modelling, financial management, relocation strategy, employee assistance and support, and cultural change. It will also link strongly to the project's communication and risk management streams.

The scale and extent of this project will be a challenge to AgResearch. As such, we will adopt a robust and successful change framework and utilise experience from recent relocations in AgResearch and other organisations.

Methodologies

John Kotter's 8 Step Process for Leading Change is to be the guiding methodology for the change management/leadership strategy. We have adopted this framework as it is a well recognised, widely used and successful change model. In addition many of our leaders are familiar with the model as it forms part of our 'Tomorrow's Leaders' AgResearch leadership development course.

The model considers the main stages of a change process: readiness for change, planning and implementation, and consolidation of progress and results. The following shows how, at this stage, we have mapped the Future Footprint context onto the 8 step model (this is provided for illustrative purposes and is work in progress. It will be completed by the Change and Transitions project stream team if the Business Case is approved).

Table 42: Kotter’s 8 Step Process for Leading Change – AgResearch context

Kotter’s Steps	AgResearch Context
STEP 1: Create a Sense of Urgency	Helping others see the need for change and the importance of acting immediately
	World class agricultural science supported by world class facilities will deliver better results for New Zealand. There is a window of opportunity to re-invest proceeds from disposal of under-utilised assets in creating modern science facilities to support the organisation for the next 20 years. Opportunities for: <ul style="list-style-type: none"> • collocating teams and aligning our locations to key stakeholders to facilitate more effective science and innovation leading to increased economic growth. • provide enhanced facilities to help retain and attract talented people. • gain efficiencies through better use of assets/capital, lower operational costs, and future proofing – flexibility/growth/new facilities.
STEP 2: Creating the Guiding Coalition	Putting together a group with enough power to lead the change
	Post Business Case decision form the implementation coalition. Bring in representative sample of the business to generate the change implementation plan.
STEP 3: Developing a Change Vision	Clarify how the future will be different from the past
	Themes should include: world class science facilities and innovation centres, team and stakeholder collocation, access to and retention of key talent, greater interaction between scientists, adaptable, reconfigurable workforce and stronger linkages to external collaborators.
STEP 4: Communicating the Vision for Buy-in	Ensuring that as many people as possible understand and accept the vision
	Staff want to engage around the process as early and as often as possible. Multiple methods of communication essential – personalise to senior science as much as possible. Provide ‘dialogue’ based communication strategies with opportunities for meaningful conversation around goals and vision.
STEP 5: Empowering People and Removing Barriers	Removing as many barriers as possible and unleashing people to do their best work
	Four sites affected on different levels. Some teams more affected than others.
STEP 6: Generating Short-term Wins	Creating visible, unambiguous success as soon as possible
	The project will unfold over the course of a few years making it difficult to maintain momentum. Communicate early adopters (movers to new locations).
STEP 7: Don't Let Up!	Consolidating gains and producing more change
	Change at AgResearch is continuous and there is a risk that other priorities will pull people away from the FFP work and back into other change efforts requiring attention. It will be important for secondments to have back fill so resources are focussed on delivery.
STEP 8: Make It Stick	Anchoring new approaches in the culture for sustained change
	Our messaging should reinforce the new ways of doing things and celebrate successes. Leaders should be encouraged to recognise and reward people demonstrating the desired behaviours and values.

To support people with making transitions, we will draw on William Bridges Transitions Model. This model is also widely used and well known.

In his model, William Bridges identifies *transitions* as having a distinctive three-phase form.

- the *first phase* is **ending** the old way: People have to let go.
- the *second phase* is a **neutral zone** hiatus, when the old way is gone but the new isn't working yet: people have to get through this time and use it creatively.
- the *third phase* is a **new beginning**: people come out of a successful transition with a sense of purpose that is realigned and with renewed energy.

The Future Footprint project would see phases aligned to the Bridges model as below.

Table 43: William Bridges – Transition – AgResearch context

Bridges Transition Phase	AgResearch Context
<p>Managing Endings</p>	<p>The range of demographics and backgrounds of people within AgResearch is wide and varied.</p> <p>There are people who have tenure with the organisation longer than the “AgResearch” organisation has been in existence. This is due to the evolution of the organisation from former Government departments. (MAF, DSIR, MIRINZ and Canesis). As a result there is a strong connection to the past and the history of the organisation and people have seen a lot of change.</p> <p>There are also people who have a short tenure with the organisation and people who have immigrated to New Zealand to work in the organisation.</p> <p>The adaptability of people to manage change is likely to be extremely varied so programmes associated with this phase need to have a good degree of flexibility.</p> <p>Much of the change for people will involve changes in location – either directly by being asked to relocate or indirectly with colleagues relocating and/or new colleagues coming to their campus.</p> <p>Activities for this period of time should include:</p> <ul style="list-style-type: none"> • preparing people for change – understanding the nature of change, grieving and the impact on them. • looking for opportunities to involve people directly in managing endings – looking for ways to recognise the past and give closure. This may involve events, researching the history, collections of memories and recollections. • providing clarity on what is changing and what is not – science deliverables will continue but the location of those may be different.

The Neutral Zone	<p>While this is already a period of uncertainty for people, the nature of this change will be over an extended period of time. As consultation has to commence early in the process but the physical relocations of staff cannot happen until building construction has taken place it is going to be important that people are well supported to work through the necessary thinking they need to rationalise the impact to them personally while also being directed to continue with 'business as usual' delivering outcomes for the organisation.</p> <p>Activities for this period of time should include:</p> <ul style="list-style-type: none">• involvement in the design process• involvement in establishing new ways of operating in the new environment• activities to review the status quo and look for new ways of doing things• regular connected and caring communication – keeping the lines of communication open• transition unit providing a support network for people• events run in conjunction with the Social Clubs to create opportunities for fun• look for opportunities to celebrate successes• look for opportunities to get quick wins
Managing Beginnings	<p>As the project will take place over a number of years, there will be multiple new beginnings during that period and the timing of these will be variable for individuals. Key messages for this time are to be consistent in the application of policies and our messaging; to recognise, reward and celebrate successes that demonstrate the new way of doing things within the organisation; and to ensure symbolism conveys the right messages.</p>

Organisational Preparedness

The scale, extent and time to implement this project requires both a high level of organisational preparedness and resilience.

Preparing Leaders for Change

Line managers will be a pivotal part of the change process. They need to be developed and supported in both delivering change messages and encouraging employees in the decision making process.

A leadership development course is proposed for all leaders (initially L2, L3 and L4) focused on leading through change once the Business Case has been completed. This will focus on awareness of organisational and personal change, and the roles in managing yourself and your teams through change.

Preparing Employees for Change

As AgResearch has experienced a lot of change – much of it driven by cost cutting – there may be high levels of change resistance and cynicism. In addition, the age demographics for the AgResearch workforce may mean a higher level of disengagement and opting for redundancy for those who are nearing (or already past) normal retirement age, and who also have long tenure with the organisation.

These are significant life changing decisions and we need to maximise the lead-in time by providing development opportunities focussed on preparing for change, making major decisions and successfully transitioning in times of change.

It is proposed to run targeted workshops to support people through the transition period, for example:

- Preparing for Change – What to Expect.
- Coping During Transition.
- On Site Coaching During Transition.
- EAP Services during transition and post move.

The Journey – How we are going to get there

As soon as we start to talk about relocations people will very quickly want to know the personal impact to them – will they be affected, how the process will be managed, what are their options. In the early stages of the project we will need to be able to communicate the base process and relevant policies that will be used (consultation process, relocation policy, selection for relocation process, redundancy policy).

Legal Obligations

AgResearch's legal obligations to staff and their representatives are derived from the Employment Relations Act and law developed under it – AgResearch's employment agreements and policy documents and the good employer obligations of the Crown Research Institutes Act. Our relationship with the PSA is crucial to this, and as in the past we will continue to meet and consult with the union prior to any final decisions being made which may impact on their members.

Relevant policies include:

- The Change Management Policy.
- Change Management Procedures and Guidelines.
- AgResearch's Employee Relocation Policy.
- Redundancy as per either the Collective or Individual Employment Agreement.

Impacts to Business Continuity

Contract delivery – There may be delays to contracted work because of the impact of relocation. The Science Continuity stream will have a key role to plan in identifying where contracts may be impacted and managing interventions if necessary.

Distraction – It needs to be acknowledged that this project will become a significant distraction for employees as it is worked through however the message that AgResearch needs to meet its obligations and continue to deliver to its SCI, needs to be strongly communicated.

Timing – We need to understand for each team being relocated the potential activities that will impact the timing of relocation and then factor this into the transition plans – i.e. contract deliverables, experiment stages, and physical equipment required

Office relocation and impact of downtime – Physically moving equipment and requiring people to relocate will impact the productivity of research projects – these needs to be factored into the planning processes for projects during the transition period.

Working notice period – Anyone impacted by redundancy will be expected to work out their 13 week notice period.

Risk Management Planning

Risk Management is going to be an important component of the Future Footprint project due to the scale of property work and volume of role relocations.

Risk analysis for this project will involve:

- identifying the threats
- estimating the risk of those threats
- managing those risks and
- regularly monitoring and reviewing them through the course of the project

Risks will be assessed for both the impact to the project and the probability/likelihood of occurrence on a scale of High, Medium and Low.

A risk register will be used for the project, identifying the nature of the risk, the potential impact, contingency and prevention plans, the owner/decision maker and the outcome based on the following criteria:

Table 44: Risk assessment criteria

Impact to project	Probability of occurrence	Action taken
High	High	Prepare a risk assessment including a contingency and prevention plan
High	Medium	Prepare a risk assessment including a contingency and prevention plan
High	Low	Prepare a risk assessment including a contingency plan
Medium	High	Prepare a risk assessment including a contingency and prevention plan
Medium	Medium	Prepare a risk assessment including a contingency plan
Medium	Low	Prepare a risk assessment including a contingency plan
Low	High	Prepare a risk assessment including a contingency plan
Low	Medium	Prepare a risk assessment and monitor
Low	Low	Prepare a risk assessment and monitor

Risk Register

The register will list all the identified risks and the results of their analysis and evaluation. Information on the status of the risk will also be included. The risk register is intended to be continuously updated and reviewed throughout the course of a project. A comprehensive review would be carried out at the commencement of the formal project, by the Project Steering Committee and relevant project streams. This review will inform the risk matrices in terms of probability of risk occurring, which is not completed in the following table. Currently identified risks, together with initial mitigations are as follows:

Table 45: Currently identified risks

Impact to project	Probability	Risk	Summary of strategy based on consideration of our ability to Share, Avoid, Reduce or Accept the risk
High		Key science staff leave to pursue other interests, impacting on revenue	Build a very strong transition and change management approach. [REDACTED] [REDACTED] Project costs for transitions modelled in Business Case on transition of staff needed to move, which we believe is conservative.
High		Low % of science staff transition to new locations which increases restructuring costs	As above.
High		Key organisational and process knowledge leaves AgResearch	While institutional and historical knowledge may leave, current Working Smarter Project is documenting core processes and focussing on reinvention so impact should be lessened. During transition period there will be focus on documenting critical processes to reduce impact.
Medium		Delays in assets sales	This can be mitigated by staging the capital expenditure projects to run after the sale of key assets.
Medium		Asset disposals do not realise projected price	Current projections based on book value (external valuations), which are conservative. Cash surpluses will cover any shortfalls.
High		Interruption to science delivery – impact project milestones and ability to recognise revenue for year	Science Continuity Stream to manage transition of research deliverables.
Medium		Attractiveness of Christchurch – desire for people to want to move there	Time between now and relocations up to three years away. Continued information on Canterbury region earthquake rebuilds activities. Involvement of staff in new build design. New build will be to modern seismic standards.
Medium		Protracted time between consultation and first relocations may impact staff decisions negatively	Ongoing communications plan/Updates. Staff involvement in building design.
Medium		[REDACTED] land cost significantly higher than modelled	Initial discussions have been held with [REDACTED] and their indicative pricing has been used in the model.
High		Communication and External Perception of the proposed changes	The communication of the rationale for any changes will be critical, both internally and to our shareholder and stakeholders. The explanation of why the changes will be good for our stakeholders and the New Zealand agriculture sector is critical, and reinforces the need to be crystal clear on the benefits, and have a very well planned communication approach.

Benefit Management Planning

Benefit Register

Future Footprint is a far reaching project, catalysing innovation centres and developing infrastructure to support the needs of the organisation and sector in both the short and long term. Benefits have been identified below and where possible should be subsequently validated during or after the project.

Short term benefits will be those realised immediately at the completion of the project's five year time frame. Medium benefits are expected to be realised within two years of completion, and long term benefits will be those realised after that.

The following table outlines a number of benefits expected from the completion of the Future Footprint project.

Table 46: Currently identified benefits

Importance	Timeframe for realisation	Future Footprint solution	Benefit
Medium	Short	Collocation into two agriculture innovation centres	Reduced travel for achieving lower costs and productivity gains.
Medium	Long	Property rationalisation	Improved asset utilisation
High	Short	Ensuring provision of quality world class science facilities	Significantly enhance the attractiveness of AgResearch to future talent from both overseas and within New Zealand. Avoid significant investment in aging building stock and outdated facilities that require ongoing significant modernization and in some cases significant earthquake strengthening.
High	Long	Agriculture Innovation Centres – locating teams together wherever possible in locations with high concentrations of key stakeholder	More sector stakeholders and industry partners located in innovation centres Larger science and industry communities, facilitating and resulting in more effective science and innovation outcomes. Increase in research quality Greater economic growth (GDP growth) for agriculture and related sectors.

Post-Project Evaluation Planning

A post project review will provide insightful reflections on what has gone well and not so well in the project. It will evaluate achievement of project benefits and identify key learning's that can be taken by those involved into future projects or if additional activities are required to realise greater benefits.

Key Questions

The key questions for this project review process should include:

- Does AgResearch have world class science facilities?
- Are we able to attract science talent more easily?
- Have the benefits been realised from concentrating and collocating of science capability in two strategically located agriculture innovation centres?
- Has research quality increased significantly?
- Do property assets have better optimisation?
- Are there improved operational costs for property assets?
- Are we seeing better capability alignment and contribution to larger science communities and stakeholders?
- Is there reduced travel for internal meetings?
- What lessons did we learn that we can apply to future projects?
- Has the project delivered to its original objectives?
- What areas have been identified for further development?

The review should be completed shortly after the project has been delivered to optimise people's memories and recollections of the project and issues have been ironed out. Initial planning would suggest March 2017 would be the earliest time for this to take place. However annual reviews in terms of benefits would need to be completed on an annual basis for the five years following completion.

Business Case Conclusion

This document has set out the strategic imperative to undertake the AgResearch Future Footprint project. We have outlined the potential benefits to AgResearch, the sector and New Zealand. We have shown how we intend to achieve the desired changes to our footprint while managing the risks effectively and that it is affordable and can be funded by AgResearch.

By providing modern science facilities, and locating the majority of our science staff in two innovation centres, we will maximise our ability to attract and retain world-class staff, operate in a more efficient and effective manner, and together with our key industry stakeholders enable a greater sustainable contribution to New Zealand's agricultural competitiveness.

The project, if approved, will best position AgResearch for the long term to deliver, in partnership with the agri-sector, the productivity and innovation gains needed to lift performance sustainably, to achieve the economic outcomes targeted for New Zealand.

Redacted version for the purposes of review by the Education and Science Select Committee.

Appendices

Appendix 1 – Future Footprint Financials

AgResearch Consolidated Group										
Statement of Comprehensive Income FFP										
	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
REVENUE										
Core & PGSF										
Commercial Science										
Farm Produce										
Other Revenue										
TOTAL REVENUE										
EXPENDITURE										
Personnel costs										
Operating Costs										
Depreciation										
IP Amortisation										
Restructuring										
TOTAL EXPENDITURE										
OPERATING PROFIT										
Gain On Sale of Divestments										
Asset & Investment Writedowns										
EBIT										
Interest Expense										
Interest Income										
Net Interest										
NET PROFIT										
TAXATION										
NET PROFIT AFTER TAX										
DIVIDEND										
NPAT & DIVIDEND										

AgResearch Consolidated Group										
Balance Sheet FFP										
	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
CURRENT ASSETS										
Bank										
Trade Debtors										
Livestock										
Inventory										
Prepayments										
Other Current Assets										
TOTAL CURRENT ASSETS										
Fixed Assets										
Investments										
Intangibles										
Other Term Assets										
TOTAL ASSETS										
CURRENT LIABILITIES										
Bank Overdraft										
Accounts Payable										
Goods and Services Tax										
Payroll Accruals & PAYE										
Income In Advance										
Provision for Annual Leave										
Performance Pay Provision										
Profit Share Provision										
Provision for Tax										
ACC Levies Provision										
Restructuring Provision										
Other Current Liabilities										
TOTAL CURRENT LIABILITIES										
TERM LIABILITIES										
Retirement Leave Provision										
Deferred Tax										
Term Loan										
Other Term Liabilities										
TOTAL TERM LIABILITIES										
NET ASSETS										
CAPITAL & RESERVES										
Share Capital										
Retained Earnings										
Asset Revaluation Reserve										
Other Reserves										
TOTAL CAPITAL & RESERVES										

AgResearch Consolidated Group Statement of Cash Flow FFP										
	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
CASH RECEIVED FROM										
Crown										
Debtors										
Interest & Dividends										
Net GST										
CASH DISBURSED ON										
Employees										
Suppliers										
Restructuring										
GST Paid To IRD										
Tax Payments										
Interest on Borrowings										
NET CASHFLOW FROM OPERATIONS										
Disposal of Investments										
Disposal of Fixed Assets										
Purchase of Fixed Assets										
Purchase of Investments/Intangibles										
NET CASHFLOW FROM INVESTING										
Term Loans taken out										
Term Loans Repaid										
Dividend Payments										
NET CASHFLOW FROM FINANCING										
NET CASH FLOW										
OPENING BANK										
CLOSING BANK										

Appendix 2 – Business as Usual Option One Financials

AgResearch Consolidated Group											
Statement of Comprehensive Income		BAU Option One									
		FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
		\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
REVENUE											
	Core & PGSF										
	Commercial Science										
	Farm Produce										
	Other Revenue										
	TOTAL REVENUE										
EXPENDITURE											
	Personnel costs										
	Operating Costs										
	Depreciation										
	IP Amortisation										
	Restructuring										
	TOTAL EXPENDITURE										
OPERATING PROFIT											
	Gain On Sale of Divestments										
	Asset & Investment Writedowns										
EBIT											
	Interest Expense										
	Interest Income										
	Net Interest										
NET PROFIT											
TAXATION											
NET PROFIT AFTER TAX											
DIVIDEND											
NPAT & DIVIDEND											

AgResearch Consolidated Group Balance Sheet BAU Option One										
	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
CURRENT ASSETS										
Bank										
Trade Debtors										
Livestock										
Inventory										
Prepayments										
Other Current Assets										
TOTAL CURRENT ASSETS										
FIXED ASSETS										
Fixed Assets										
Investments										
Intangibles										
Other Term Assets										
TOTAL ASSETS										
CURRENT LIABILITIES										
Bank Overdraft										
Accounts Payable										
Goods and Services Tax										
Payroll Accruals & PAYE										
Income In Advance										
Provision for Annual Leave										
Performance Pay Provision										
Profit Share Provision										
Provision for Tax										
ACC Levies Provision										
Restructuring Provision										
Other Current Liabilities										
TOTAL CURRENT LIABILITIES										
TERM LIABILITIES										
Retirement Leave Provision										
Deferred Tax										
Term Loan										
Other Term Liabilities										
TOTAL TERM LIABILITIES										
NET ASSETS										
CAPITAL & RESERVES										
Share Capital										
Retained Earnings										
Asset Revaluation Reserve										
Other Reserves										
TOTAL CAPITAL & RESERVES										

AgResearch Consolidated Group										
Statement of Cash Flow BAU Option One										
	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
CASH RECEIVED FROM										
Crown										
Debtors										
Interest & Dividends										
Net GST										
CASH DISBURSED ON										
Employees										
Suppliers										
Restructuring										
GST Paid To IRD										
Tax Payments										
Interest on Borrowings										
NET CASHFLOW FROM OPERATIONS										
Disposal of Investments										
Disposal of Fixed Assets										
Purchase of Fixed Assets										
Purchase of Investments/Intangibles										
NET CASHFLOW FROM INVESTING										
Term Loans taken out										
Term Loans Repaid										
Dividend Payments										
NET CASHFLOW FROM FINANCING										
NET CASH FLOW										
OPENING BANK										
CLOSING BANK										

Appendix 3 – Business as Usual Option Two Financials

AgResearch Consolidated Group										
Statement of Comprehensive Income Option Two										
	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
REVENUE										
Core & PGSF										
Commercial Science										
Farm Produce										
Other Revenue										
TOTAL REVENUE										
EXPENDITURE										
Personnel costs										
Operating Costs										
Depreciation										
IP Amortisation										
Restructuring										
TOTAL EXPENDITURE										
OPERATING PROFIT										
Gain On Sale of Divestments										
Asset & Investment Writedowns										
EBIT										
Interest Expense										
Interest Income										
Net Interest										
NET PROFIT										
TAXATION										
NET PROFIT AFTER TAX										
DIVIDEND										
NPAT & DIVIDEND										

AgResearch Consolidated Group Balance Sheet Option Two										
	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
CURRENT ASSETS										
Bank										
Trade Debtors										
Livestock										
Inventory										
Prepayments										
Other Current Assets										
TOTAL CURRENT ASSETS										
FIXED ASSETS										
Fixed Assets										
Investments										
Intangibles										
Other Term Assets										
TOTAL ASSETS										
CURRENT LIABILITIES										
Bank Overdraft										
Accounts Payable										
Goods and Services Tax										
Payroll Accruals & PAYE										
Income In Advance										
Provision for Annual Leave										
Performance Pay Provision										
Profit Share Provision										
Provision for Tax										
ACC Levies Provision										
Restructuring Provision										
Other Current Liabilities										
TOTAL CURRENT LIABILITIES										
TERM LIABILITIES										
Retirement Leave Provision										
Deferred Tax										
Term Loan										
Other Term Liabilities										
TOTAL TERM LIABILITIES										
NET ASSETS										
CAPITAL & RESERVES										
Share Capital										
Retained Earnings										
Asset Revaluation Reserve										
Other Reserves										
TOTAL CAPITAL & RESERVES										

AgResearch Consolidated Group										
Statement of Cash Flow Option Two										
	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
CASH RECEIVED FROM										
Crown										
Debtors										
Interest & Dividends										
Net GST										
CASH DISBURSED ON										
Employees										
Suppliers										
Restructuring										
GST Paid To IRD										
Tax Payments										
Interest on Borrowings										
NET CASHFLOW FROM OPERATIONS										
Disposal of Investments										
Disposal of Fixed Assets										
Purchase of Fixed Assets										
Purchase of Investments/Intangibles										
NET CASHFLOW FROM INVESTING										
Term Loans taken out										
Term Loans Repaid										
Dividend Payments										
NET CASHFLOW FROM FINANCING										
NET CASH FLOW										
OPENING BANK										
CLOSING BANK										

Appendix 4 – Statement of Corporate Intent Model

The SCI Model is provided to indicate the earlier indication of the business under Future Footprint at the time of the preparation of the SCI, but expanded out into future years in the continuation of the same assumptions used for the initial five years of the SCI.

The FFP model provided in the Business Case is following a full analysis of the financial impacts on the business of the Future Footprint project.

SCI Assumptions

Statement of assumptions underpinning the SCI Business Case:

- Farm assets are being rationalised through disposal of surplus capacity.

Table 47: Farm asset rationalisation for SCI

Location	Sell Amount	Date
Kaitoke	[REDACTED]	March 2013
Flock House	[REDACTED]	June 2013
Winchmore	[REDACTED]	January 2014
Ballantrae	[REDACTED]	January 2014
Total	[REDACTED]	

- Disposal of surplus campus

Table 48: Asset disposal for SCI

Location	Sell Amount	Date
Wallaceville	[REDACTED]	March 2013

- Re-investment in facilities with capital expenditure of \$58.2m.

SCI Results

Key results from the financial statements (Profit and Loss, Balance Sheet and Statement of Cash Flows) over the forecast period are:

	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
	\$000's	\$000's	\$000's	\$000's	\$000's	\$000's	\$000's	\$000's	\$000's	\$000's
Revenue	163,075	166,362	174,970	180,303	186,313	192,570	199,079	205,861	212,927	220,290
EBITDAF	20,295	19,814	23,348	26,675	28,295	26,893	25,851	24,745	23,567	22,317
Funding Costs	(418)	(474)	(401)	(765)	(1,238)	(1,009)	(428)	(407)	(387)	(372)
NPAT	7,062	5,376	6,369	8,903	10,360	9,365	8,198	7,385	6,522	5,613
Taxation Paid	2,444	3,137	3,699	4,590	5,310	5,540	5,335	5,145	4,897	4,628
Dividend Paid	-	-	-	-	-	35,000	10,000	9,000	8,000	6,000
Net Capital Expenditure	(9,875)	38,290	14,500	12,700	11,500	11,500	11,500	11,500	11,500	11,500
Closing Cash/Loans	32,908	11,257	15,123	24,648	36,337	13,040	12,013	11,016	10,037	10,026
Total Fixed Assets	252,408	257,644	264,443	273,552	283,997	258,741	256,331	254,031	251,832	250,690
Total Equity	207,001	212,377	218,746	227,649	238,009	206,374	205,572	204,956	204,478	204,091

Associated core AgResearch SCI metrics are:

	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
Operating Margin %	12.4%	11.9%	13.3%	14.8%	15.2%	14.0%	13.0%	12.0%	11.1%	10.1%
Operating Margin per FTE (\$000)	26.29	25.22	28.66	32.08	33.32	30.99	29.15	27.28	25.40	23.49
Revenue Growth	3.2%	2.0%	5.2%	3.0%	3.3%	3.4%	3.4%	3.4%	3.4%	3.5%
Quick Ratio	2.58	1.70	1.88	2.21	2.62	1.43	1.46	1.50	1.54	1.56
Capital Renewal	-0.9	3.4	1.1	1.0	0.9	0.9	0.9	0.9	0.9	0.9
Equity Ratio %	81%	82%	83%	83%	84%	82%	80%	80%	81%	81%
Return on Equity %	3.4%	2.5%	2.9%	3.9%	4.4%	4.5%	4.0%	3.6%	3.2%	2.8%
Adjusted Return on Equity %	5.8%	3.6%	4.1%	5.4%	5.9%	5.7%	5.6%	5.0%	4.5%	3.8%

AgResearch Consolidated Group										
Statement of Comprehensive Income SCI										
	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
REVENUE										
Core & PGSF										
Commercial Science										
Farm Produce										
Other Revenue										
TOTAL REVENUE										
EXPENDITURE										
Personnel costs										
Operating Costs										
Depreciation										
IP Amortisation										
Restructuring										
TOTAL EXPENDITURE										
OPERATING PROFIT										
Gain On Sale of Divestments										
Asset & Investment Write-downs										
EBIT										
Interest Expense										
Interest Income										
Net Interest										
NET PROFIT										
TAXATION										
NET PROFIT AFTER TAX										
DIVIDEND										
NPAT & DIVIDEND										

AgResearch Consolidated Group Balance Sheet SCI										
	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
CURRENT ASSETS										
Bank										
Trade Debtors										
Livestock										
Inventory										
Prepayments										
Other Current Assets										
TOTAL CURRENT ASSETS										
FIXED ASSETS										
Fixed Assets										
Investments										
Intangibles										
Other Term Assets										
TOTAL ASSETS										
CURRENT LIABILITIES										
Bank Overdraft										
Accounts Payable										
Goods and Services Tax										
Payroll Accruals & PAYE										
Income In Advance										
Provision for Annual Leave										
Performance Pay Provision										
Profit Share Provision										
Provision for Tax										
ACC Levies Provision										
Restructuring Provision										
Other Current Liabilities										
TOTAL CURRENT LIABILITIES										
TERM LIABILITIES										
Retirement Leave Provision										
Deferred Tax										
Term Loan										
Other Term Liabilities										
TOTAL TERM LIABILITIES										
NET ASSETS										
CAPITAL & RESERVES										
Share Capital										
Retained Earnings										
Asset Revaluation Reserve										
Other Reserves										
TOTAL CAPITAL & RESERVES										

AgResearch Consolidated Group										
Statement of Cash Flow SCI										
	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000	\$000
CASH RECEIVED FROM										
Crown										
Debtors										
Interest & Dividends										
Net GST										
CASH DISBURSED ON										
Employees										
Suppliers										
Restructuring										
GST Paid To IRD										
Tax Payments										
Interest on Borrowings										
NET CASHFLOW FROM OPERATIONS										
Disposal of Investments										
Disposal of Fixed Assets										
Purchase of Fixed Assets										
Purchase of Investments/Intangibles										
NET CASHFLOW FROM INVESTING										
Term Loans taken out										
Term Loans Repaid										
Dividend Payments										
NET CASHFLOW FROM FINANCING										
NET CASH FLOW										
OPENING BANK										
CLOSING BANK										

Appendix 5 – Net Present Value Calculations

	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	IN PERP
	\$000's	\$000's	\$000's	\$000's	\$000's	\$000's	\$000's	\$000's	\$000's	\$000's	\$000's
Future Footprint											
Net Cashflow from Operations	11,914	17,592	18,155	14,180	19,108	21,280	23,236	23,250	23,941	25,237	
Net Cashflow from Investing	17,554	-29,624	-40,764	-30,222	1,710	-11,500	-11,500	-11,500	-11,500	-11,500	
Net cashflow from Financing	0	0	0	5,000	-5,000	-11,000	-11,000	-12,000	-12,000	-13,000	
Less Dividend Payment	0	0	0	0	0	11,000	11,000	12,000	12,000	13,000	
NPV at 8%	29,468	-12,032	-22,608	-11,042	15,818	9,780	11,736	11,750	12,441	13,737	480,797
										\$33,617	\$256,319
OPTION ONE Model											
Net Cashflow from Operations	12,012	17,883	19,844	19,954	22,872	21,963	21,163	20,945	20,986	21,393	
Net Cashflow from Investing	25,160	-10,789	-31,572	-21,491	-15,661	-13,468	-11,500	-11,500	-11,500	-11,500	
Net cashflow from Financing	0	0	0	0	0	-50,000	-8,000	-10,000	-9,000	-10,000	
Less Dividend Payment	0	0	0	0	0	50,000	8,000	10,000	9,000	10,000	
NPV at 8%	37,172	7,094	-11,727	-1,537	7,211	8,495	9,663	9,445	9,486	9,893	346,255
										\$60,391	\$220,774
OPTION TWO Model											
Net Cashflow from Operations	12,271	17,560	19,202	21,229	20,729	20,725	21,246	20,946	20,997	21,413	
Net Cashflow from Investing	27,091	-8,557	-22,080	-18,630	-11,500	-11,500	-11,500	-11,500	-11,500	-11,500	
Net cashflow from Financing	0	-34,000	-9,000	-2,000	-15,000	-8,000	-10,000	-10,000	-9,000	-10,000	
Less Dividend Payment	0	34,000	9,000	2,000	15,000	8,000	10,000	10,000	9,000	10,000	
NPV at 8%	39,361	9,003	-2,878	2,599	9,229	9,225	9,746	9,446	9,497	9,913	346,938
										\$76,017	\$236,716
FFP Worst Case Scenario											
Net Cashflow from Operations	11,801	17,026	18,483	13,776	17,418	19,761	22,203	22,654	23,353	24,513	
Net Cashflow from Investing	11,319	-31,736	-33,272	-35,299	-25,367	389	-11,500	-11,500	-11,500	-11,500	
Net cashflow from Financing	0	0	0	10,000	10,000	-20,000	0	-7,000	-12,000	-12,000	
Less Dividend Payment	0	0	0	0	0	0	0	7,000	12,000	12,000	
NPV at 8%	23,120	-14,710	-14,789	-11,523	2,050	150	10,703	11,154	11,853	13,013	455,444
										\$14,305	\$225,263
FFP Best Case Scenario											
Net Cashflow from Operations	11,932	17,735	18,487	15,565	19,282	21,059	22,981	22,995	23,692	24,981	
Net Cashflow from Investing	20,451	-26,290	-37,893	-27,052	3,031	-11,500	-11,500	-11,500	-11,500	-11,500	
Net cashflow from Financing	0	0	0	0	-15,000	-11,000	-12,000	-11,000	-12,000	-12,000	
Less Dividend Payment	0	0	0	0	15,000	11,000	12,000	11,000	12,000	12,000	
NPV at 8%	32,383	-8,555	-19,405	-11,487	22,313	9,559	11,481	11,495	12,192	13,481	471,820
										\$45,264	\$263,808
SCI Model											
Net Cashflow from Operations	14,187	16,639	18,366	22,225	23,189	23,203	20,473	19,503	18,521	17,490	
Net Cashflow from Investing	9,875	-38,290	-14,500	-12,700	-11,500	-11,500	-11,500	-11,500	-11,500	-11,500	
Net cashflow from Financing	0	0	0	0	0	-35,000	-10,000	-9,000	-8,000	-6,000	
Less Dividend Payment	0	0	0	0	0	35,000	10,000	9,000	8,000	6,000	
NPV at 8%	24,062	-21,651	3,866	9,525	11,689	11,703	8,973	8,003	7,021	5,990	209,641
										\$44,964	\$142,068



Future Footprint Business Case Oct 2012