

**BEFORE THE WAIPĀ DISTRICT COUNCIL AND WAIKATO REGIONAL
COUNCIL**

**TOKANUI HOSPITAL DEMOLITION, REMEDIATION AND LANDFILL
UPGRADES**

Under the Resource Management Act 1991

In the matter of resource consent applications by Toitū Te Whenua Land
Information New Zealand under section 88 of the Act for
demolition and remediation works, and landfill upgrades, in
respect of the former Tokanui Hospital site.

**STATEMENT OF EVIDENCE OF KIMBERLY ANN WEPASNICK (PROJECT
DESIGN AND DELIVERY) ON BEHALF OF THE APPLICANT**

Dated: 12 September 2025

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EXECUTIVE SUMMARY

1. My full name is **Kimberly Ann Wepasnick**.
2. I am a Principal Advisor – Contaminated Land at Toitū Te Whenua Land Information New Zealand (**LINZ** or **Applicant**).
3. I have prepared this statement of evidence on behalf of the Applicant in respect of two resource consent applications for remediation and demolition works to return the former Tokanui Hospital site (**Site** or **Project Site**¹) to land suitable for rural and rural residential activities (**Remediation Application**) and a discrete package of works to the closed landfill on the Site allowing for the disposal of contaminated soil from the Site (**Landfill Application**) (together, the **Applications**). Together, the Applications relate to, and seek consents enabling, the **Project**.
4. The goal of the Project is to complete demolition works and to return the Site to agreed remedial standards, in accordance with Treaty settlement obligations.
5. The Project was scoped and designed through a phased approach, with early and ongoing engagement with Ngāti Maniapoto and mana whenua hapū. Cultural values were embedded from the outset, including the development of a Cultural Impact Assessment (**CIA**) which informed the procurement of consultants and the design of investigations to ensure cultural competency and respect for waahi tapu.
6. LINZ commissioned a series of technical investigations and feasibility studies to inform the scope and methodology of the demolition and remediation works. A hybrid Multi-Criteria Analysis (**MCA**) was developed to assess options across environmental, economic, social, and cultural dimensions. This approach ensured cultural values were weighted equally with other criteria. A Site-Specific Risk Assessment (**SSRA**) was also undertaken to derive tailored soil contaminant standards for the site, resulting in more conservative remediation targets.
7. Eight remedial options for managing contaminated soil were assessed, with Option 6 – utilising the existing landfill – emerging as the preferred choice due to its cultural acceptability, environmental benefits, and cost-effectiveness.

¹ Described in more detail below under the heading "Project Site and location".

8. For the closed landfill, five upgrade options were considered, ranging from minimal intervention to full removal. Option 4 – Advanced Works – was selected for the soil remediation aspect of the Project, incorporating stream restoration, improved capping, and relocation of refuse to consented areas. These decisions were shaped by feedback from iwi and mana whenua and aimed to address long-term environmental and cultural concerns.
9. The integration of hospital remediation and landfill upgrades was driven by efficiency, environmental protection, and cultural considerations. Coordinated resource consent applications were submitted to Waipā District Council (**WDC**) and Waikato Regional Council (**WRC**) (together, the **Councils**), marking the completion of Phase 1 of the Project. LINZ continued engagement with iwi throughout Phase 2, ensuring transparency and responsiveness to cultural feedback. The Applications reflect a commitment to sustainable remediation, Treaty obligations, and long-term environmental stewardship.
10. LINZ has committed to appointing certified contaminated land practitioners and preparing detailed erosion and sediment control plans. Feedback from iwi has directly influenced the scope and methodology of the Project, including the decision to upgrade the landfill to better protect the Wharekōrino Stream. The Project demonstrates a collaborative, culturally respectful approach to environmental remediation.

INTRODUCTION

11. My full name **Kimberly Ann Wepasnick**.
12. I am a Principal Advisor – Contaminated Land at LINZ. I have been in this position since May 2021. I started with LINZ as a Senior Portfolio Manager in January 2019.
13. I am primarily responsible for overseeing LINZ's Contaminated Land programme of works, and my key responsibilities include:
 - (a) developing LINZ's contaminated land management strategy;
 - (b) developing and maintaining a register of contaminated land data;
 - (c) scoping, procuring and managing environmental assessments and remediation projects delivered by third-party consultants;

- (d) reviewing technical reports with a focus on contaminated land, environmental and archaeological reports; and
 - (e) supporting disclosures and due diligence on treaty settlements properties and working with iwi on contamination liabilities.
14. I also provide technical contaminated land advice to other teams across LINZ, collaborate with other government agencies and have participated in industry bodies in technical working groups.
15. I am authorised to give this evidence on behalf of the Applicant.

Qualifications and experience

16. While I am not giving this evidence in an expert capacity, for completeness I have the following qualifications and relevant experience:
- (a) a Bachelor of Science (Cum Laude) in Geology from Western Carolina University (2007), a Master of Environment (Second Class Honours, Division A) in Environmental Science from the University of Melbourne (2012) and an Advanced Hydrogeology Certificate from the Minerals Tertiary Education Council (2012);
 - (b) I have worked as an environmental professional in laboratory, consultancy and central government (non-regulatory) settings for approximately 15 years (13 of which I worked full time in site contamination roles); and
 - (c) I have been involved in a range of environmental and contaminated land projects in Australia and New Zealand, including:
 - (i) Shell Geelong Refinery & Newport Storage Terminal - multiple groundwater investigations - Victoria, Aus (ERM);
 - (ii) Williamstown Closed Landfill Investigation, Melbourne, Aus (ERM);
 - (iii) Kiln St Remediation, Silverstream (Andrew Stewart (now SLR));
 - (iv) Ocean Beach Landfill, Bluff (MfE);
 - (v) Masterton Hospital Demolition and Remediation (LINZ); and
 - (vi) Barrett St Hospital Demolition and Stockpile Removal (LINZ).

17. I am a member of:

- (a) the Australasian Land and Groundwater Association (**ALGA**) since 2013 and am a member of the ALGA Wellington Branch Committee, from 2014 – 2022 and again from late-2023 to present. I was the Branch Chair between 2020 and 2022;
- (b) the Waste Management Institute of New Zealand (**WasteMINZ**) since 2014; and
- (c) the National Association of Women in Construction since 2024.

Project involvement

18. My involvement in the Project dates back to 2019 when I started working for LINZ. Most relevantly (for the purposes of my evidence), I am responsible for the Project design and am part of the team of the team responsible for delivery of the Project. However, I have also been involved in:

- (a) the decommissioning and construction of wastewater infrastructure;
- (b) reviewing and advising on high-level investigations and feasibility studies to inform the demolition and remediation components of the Project;
- (c) negotiating the terms of the Property Redress Schedule, Part 9: Tokanui Hospital Deferred Selection Process (the standalone process within the Maniapoto Deed of Settlement (**Deed**) which informed the scope and approach of the Project);
- (d) working with mana whenua to obtain the Cultural Impact Assessment (**CIA**), the Waahi Tapu Investigation and Cultural Induction Summary, and iwi engagement described in Matthew Bradley's evidence; and
- (e) providing advice to Ministers on decisions relating to the Project (including BRF 23-169 and BRF 23-424).

19. I authored the Consultancy Work Request (**CWR**) (LINZ tender document) and associated Project Background Document to procure third-party consultants under the LINZ Construction Consultancy Services panel for the following contracts:

- (a) Contaminated Land Investigations (CWR No.: 2021-75, GETS No: 25263288);

- (b) Planning and Engagement (CWR No.: 2021-76, GETS No: 25263288);
 - (c) Disposal Sites: Monitoring, Management and Advice (CWR No.: 2021-77, GETS No: 25263252); and
 - (d) Archaeology and Heritage Services (CWR No.: 2021-80, GETS No: 25536679).
20. I authored the Iwi Engagement Report dated 19 November 2024, which detailed the engagement undertaken with Ngāti Maniapoto (represented by Te Nehenehenui Trust (**TNN**)) and mana whenua hapū (notably Ngāti Paretekawa, Ngāti Ngutu and Ngāti Paia) as part of the Project. That report, attached as Appendix D to the Assessment of Environmental Effects for the Remediation Application (**Remediation AEE**) and Appendix J.4 to the Assessment of Environmental Effects for the Landfill Application (**Landfill AEE**), is addressed in the evidence of Mr Bradley (Project overview and engagement).
21. I also authored the Iwi Engagement Report – Phase 2 Addendum dated 12 September 2025, an addendum to the Iwi Engagement Report which details the continued engagement with TNN and mana whenua hapū. Mr Bradley was the peer reviewer and approver of both reports and was also closely involved in the TNN and mana whenua engagement and Deed negotiations. The Iwi Engagement Report and the Phase 2 addendum (**Appendix MB1** to Mr Bradley's evidence) describe in detail the key site visits, hui and workshops related to the Project.
22. I have attended all of those hui, site visits and workshops, which are described in the Iwi Engagement Report (Table 3 and Appendix B), and attended the site visit and some hui described in the Iwi Engagement Report Phase 2 Addendum (**Appendix MB1**) at Table 2 and Appendix B, and in the evidence of others called for by LINZ.
23. In preparing my evidence I have reviewed various materials, including:
- (a) the application documents for the Project including the Remediation AEE, Landfill AEE and the accompanying technical reports;

- (b) the CIA prepared on behalf of TAR Block Limited² and attached to the Remediation Application as Appendix B1 and to the Landfill Application as Appendix K1;
- (c) the Waahi Tapu Investigation and Cultural Induction Summary prepared by TAR Block Limited and attached to the Remediation Application as Appendix B2 and to the Landfill Application as Appendix K2;
- (d) the Tokanui Disposal Options Assessment Report prepared by Fraser Thomas Ltd (**FTL**);³
- (e) the CWRs listed above;
- (f) The Schedule 9: Tokanui Hospital Deferred Selection Process (**THDSP**), BRF 23-169 Tokanui Hospital: Decision-making process and criteria, BRF 23-424 Tokanui Hospital: Scope of Works;
- (g) the documents circulated between the Applicant, Waipā District Council (**WDC**) and Waikato Regional Council (**WRC**) (together, the **Councils**) as part of the section 92 (further information request) process;
- (h) the Councils' section 42A reports prepared by Ceri Hills (for WRC) and Hayley Thomas (for WDC);
- (i) the eight submissions received on the Applications, including:
 - (i) the two submissions received on behalf of TNN⁴; and
 - (ii) six submissions received from individuals⁵ expressing concerns relating to the engagement/consultation process, adverse cultural effects, and various environmental effects (including in relation to the Wharekōrino Stream (**Stream**), the landfill, and contaminated soil, among others); and
- (j) the statement of evidence on behalf of TNN dated 10 September 2025.

² TAR Block Limited is the legal body for the TAR Block (advisors to the claimant and landowners of WAI 440). The CIA was prepared by Project Consultant Kaawhia Te Muraahi and Researcher (and TAR member) Maria Maniapoto.

³ Available online at <https://www.linz.govt.nz/sites/default/files/release/Disposal%20Options%20Assessment%20Report.pdf>

⁴ Dated 13 June 2025 (in respect of the submission on the WRC consents) and 23 June 2025 (in respect of the submission on the WDC consents).

⁵ Robert John Muraahi (in relation to regional consents only), Niketi Toataua, Samuel Roa, Gordon Thompson, Nigel Ngahiwi and Yvonne Waho.

24. I have also reviewed the draft evidence of Mr Bradley (Project overview and engagement), Sean Finnigan (Engineering, contaminated land and other environmental effects) and Emily Buckingham (Planning).

Scope of evidence

25. My statement of evidence addresses Project design and delivery. It should be read alongside the evidence of Mr Bradley, who provides an overview of the Project and the iwi and mana whenua engagement process, including in relation to the Deed. While I do not address the engagement process in any detail in my evidence, it is relevant to my evidence as the Project design and delivery is closely linked to that engagement process and its outcomes (including feedback received from iwi and mana whenua hapū).
26. In particular, my evidence:
- (a) provides an overview of the Project's design and delivery approach, including:
 - (i) a brief description of the Project Site and location;
 - (ii) how the Project was scoped and consultants procured to accord with the requirements of the Deed and MoU⁶ and to respond to key recommendations in the CIA; and
 - (iii) how the Project was initially programmed with a phased approach to accord with the requirements of the Deed and MoU;
 - (b) discusses delivery of Phase 1 of the Project, including
 - (i) the 2023 Waahi Tapu Investigation and Cultural Induction Summary;
 - (ii) the development of the remediation standards and the options analysis (hybrid multicriteria analysis (**MCA**)) that were undertaken between 2023 – 2024; and
 - (iii) how the Project's remedial options were refined and final scope selected following consultation where feedback on potential cultural effects and recommendations was provided from TNN and mana whenua at key engagement stages of the Project;

⁶ The Memorandum of Understanding (**MoU**) signed between LINZ and Ngāti Maniapoto in March 2022 (appended to the Iwi Engagement Report).

(c) responds to submission points relating to Project design and delivery;
and

(d) responds to section 42A reports.

27. I address each of these points in my evidence below.

PROJECT DESIGN OVERVIEW

Project Site and location

28. The Project Site (or **Site**) describes the site of the former Tokanui Psychiatric Hospital.⁷
29. The Project Site is located at 149 Te Mawhai Rd, Tokanui, approximately 14 kilometres southeast of Te Awamutu, Waikato. It is legally described as Section 1 SO 44852. The Site is approximately 79 hectares in size and contains 84 buildings/structures, a now decommissioned wastewater treatment plant (**WWTP**), a swimming pool, eight substations, substantial underground services, a closed landfill and substantial roading infrastructure. The Site is shown in Figure 1 of Ms Buckingham's evidence.
30. The Wharekōrino Stream transects the eastern portion of the Site flowing in a south to north direction. It flows into the Pūniu River which then flows into the Waipā River.
31. The hospital's former landfill (now closed) is located on the eastern side of the Stream. **Figure 1** (overleaf) shows an overview plan of the existing landfill.

⁷ Section 3.1 of both the Landfill AEE and Remediation AEE provide a more detailed Site description.

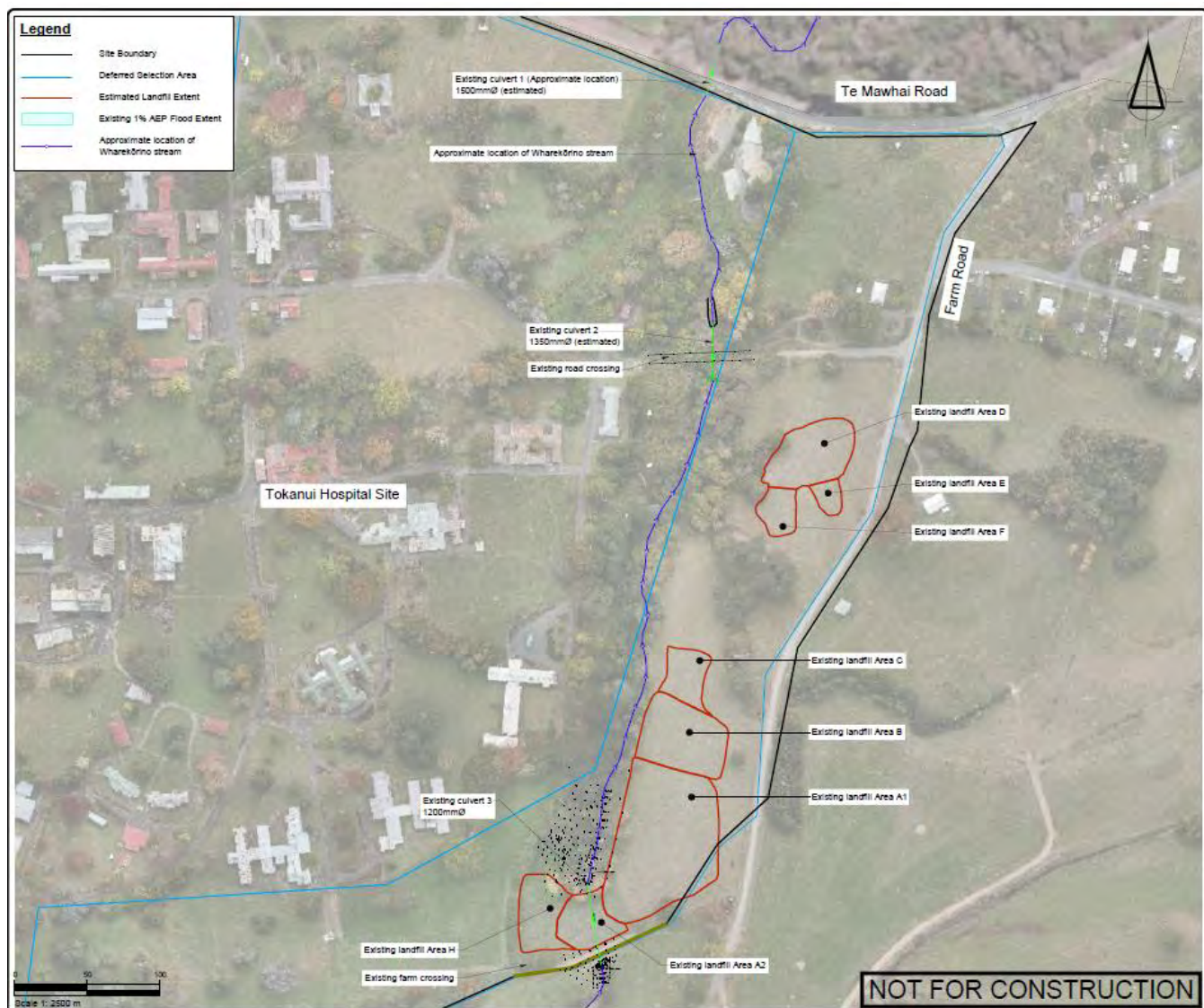


Figure 1: Existing Landfill Overview Plan, Rev A, 23 May 2025

32. The Stream is culverted where it passes through the southern part of the landfill area, referred to as Culvert 3, and then runs in an open natural stream channel along the western side of the landfill until passing through Culvert 2. The Stream then passes under Te Mawhai Road through Culvert 1. Locations of the Stream, culverts and natural inland wetlands are shown in Figure 2 of Ms Buckingham's evidence.

Project Scoping / Design

Initial high-level investigations

33. As noted in Mr Bradley's evidence, between 2018 and 2019 LINZ commissioned several high-level investigations and feasibility studies to gain a better understanding of the Site. This included a detailed options assessment and preliminary financial analysis of the treatment of horizontal infrastructure (roading and below-ground services) and management of Project waste. These investigations also included several technical contaminated land investigations undertaken by AECOM as well as a 2015 Site Scoping, Contamination Preliminary Site Investigation report by Opus.
34. As addressed in the evidence of Mr Bradley, these assessments were used to inform Deed negotiations and the shortlisted options that were assessed in the CIA process. As explained further below, the outcomes of both the Deed and CIA were fundamental in shaping the Project design (as well as the MoU also addressed in Mr Bradley's evidence).
35. The investigations and feasibility studies were completed at a high-level and were never intended to inform the methodology for demolition and remediation. They therefore omitted matters that needed to be resolved prior to works starting.

Further investigations, reports and procurement strategy

36. The Deed records that, at the time of signing, there was not enough information to make decisions on the full scale and extent of work that would be delivered by LINZ.⁸ Therefore, further investigations and options analysis were required to inform decision making, the result of which would

⁸ Property Redress Schedule, Schedule 9, clause 9.2

subsequently inform the final scope and methodology of the demolition and remediation works set out in the consent applications.

37. Following Cabinet approval for new operational funding in February 2021 and confirmation of the requirements of the Deed, LINZ finalised draft principles and designed how the Project would be delivered to meet the requirements of the Deed. We then procured specialist consultants to:
 - (a) undertake the required investigations and options analysis to inform decision making;
 - (b) then prepare all necessary methodology statements, plans, drawings etc to support the consent applications.
38. The consultants will remain involved for the duration of the Project.
39. To scope how the Project would be delivered, I reviewed the reports undertaken up to this point to identify gaps in the investigations. Based on my experience with the Resource Management Act 1991 (**RMA**) (in particular the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil for the Protection of Human Health) Regulations 2011(**NES-CS**) and the Heritage New Zealand Pouhere Taonga Act 2014 (**HNZPTA**)), I developed a list of other reports and investigations that may be required to inform decision making and the subsequent Remediation AEE.
40. I also reviewed the CIA, with a particular focus on the recommendations and aspirations sections and the engagement and reporting requirements in the Deed and MoU, and factored these into the scope of works.
41. I then developed a procurement strategy that included:
 - (a) which specialist consultants needed to be engaged;
 - (b) what investigations and advice they needed to provide to inform decisions on the full scale and extent of work that LINZ is required to deliver;
 - (c) how the deliverables and overarching Project needed be programmed to ensure LINZ would meet the timeframes required in the Deed; and
 - (d) how LINZ would meet engagement requirements set out in the MoU and relevant legislation.

Consultancy Work Requests

42. CWRs for the initial investigations were then prepared and released in a closed tender on GETS (the Government Electronic Tender Service) between late-2021 and mid-2022 to procure third-party consultants under the LINZ Construction Consultancy Services panel for the contracts set out at the start of my evidence.
43. These documents were prepared, reviewed and approved in accordance with LINZ procurement policy and procedures and were approved by Mr Bradley as the delegated financial authority and manager responsible for overall delivery of the Project.

Cultural Impact Assessment

44. As noted above, the CIA was obtained prior to the engagement of all specialist consultants and the document shared as part of their procurement to ensure cultural considerations were at the forefront of planning and any advice prepared throughout Phase 1 of the Project. It was also a requirement in the consultant contracts that they undergo cultural induction, adhere to iwi engagement protocols, and demonstrate cultural competency during the initial investigations.
45. These requirements were to ensure that findings and recommendations in the initial investigations were not just technical but had cultural values incorporated to support culturally respectful Project delivery (as opposed to preparing investigations and factoring in cultural considerations afterwards). How the scope of works responded to the recommendations and aspirations in the CIA is described further below.

Supplementary investigations

46. At the time of scoping the deliverables required to enable the demolition and remediation works, I was conscious of the requirements in the Deed that LINZ is tasked with maintaining valid land use resource consents for the monitoring of the closed landfill in perpetuity.⁹ The Deed explicitly records, however, that the Crown is not required to carry out demolition and remedial works on the closed landfills. This is also acknowledged at paragraph 3 of each of TNN's two submissions.

⁹ Schedule 9 of the Property Redress Schedule to the Deed at 9.13. The closed landfills are currently authorised under resource consents numbered 102269.01.01, 102270.01.01 and 102271.01.01.

47. As such, and as part of the CWR for the Disposal Sites: Monitoring, Management and Advice scope, supplementary investigations were requested as part of the Project. Their objectives were twofold: first, to ensure the Crown is compliant with existing resource consent conditions; and, second, to develop options for the Crown to ensure the environment and human health are protected while ensuring responsible long-term taxpayer value for money. I note:
- (a) regarding **consent compliance**, that observations in previous WSP¹⁰ landfill monitoring reports regarding the quality of the landfill cap needed further investigation. Additionally, because the existing resource consents expire in 2035, it was prudent to also consider future consenting requirements and long-term strategy for management of the existing landfill in parallel to the demolition and remediation works. In particular, we thought it logical and efficient to consider whether maintenance works required in parallel to the Project could be carried out now (while LINZ had the resources and funding available) rather than waiting until closer to 2035 when the current consents end; and
 - (b) regarding the **environmental and health protection, and taxpayer value for money concerns**, LINZ sought to examine the process, estimated costs, risks and challenges associated with remediating the existing disposal sites (or parts thereof) to reduce the Crown's long-term liability, environmental impacts and cultural impacts, and to ensure the responsible management of taxpayer expenditure. This was compared to the onerous legislative / regulatory requirements, high estimated costs, and risks and challenges associated with managing an existing landfill in perpetuity.

The Project's phased approach

48. Clause 9.15 of the Deed specifies the timeframes for three key aspects of the Project:
- (a) resource consent application preparation;
 - (b) resource consent application processing; and
 - (c) physical works onsite.

¹⁰ WSP had previously been engaged on behalf of LINZ by Colliers to undertake the biannual consent compliance monitoring. Their involvement in work on the landfill ceased when FTL were awarded the contract in relation to the Project.

49. Due to the scale of the Project, the timeframes mandated by the Deed were agreed to be delivered over several years so that the Crown could complete the delivery of required work onsite within a reasonable timeframe. To achieve the above requirements, LINZ subsequently designed the Project to be delivered in a phased approach as shown in **Figure 2** and summarised in **Table 1**, below.

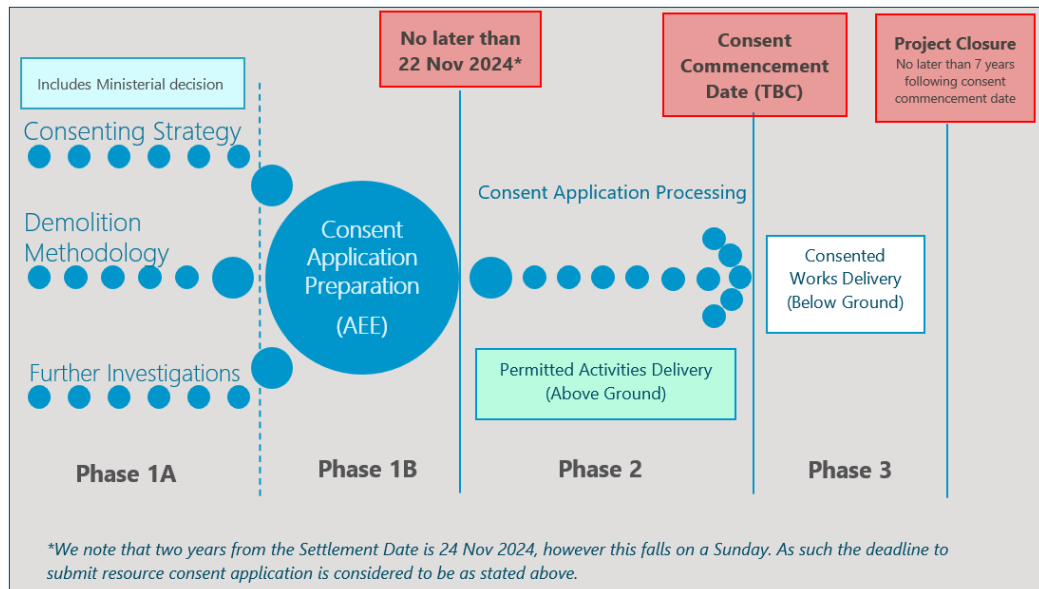


Figure 2: Project Phases

50. Settlement negotiations agreed that decisions on the Project would have varying delegations for decisions on extent of work that would be delivered, factoring in the scale and potential financial and legal implications of the decisions.¹¹ This framework for decision-making was a critical component of how the Project was scoped and delivered by LINZ specialist consultants to ensure consent applications could be lodged within the timeframe required by the Deed, described below.
51. Relevantly, the Deed specifies¹² the Crown will, no later than two years following the settlement date, apply for all necessary consents required for the demolition and remediation works, and if relevant, the existing and/or new disposal sites.
52. It was therefore critical that investigations were prioritised to allow sufficient time for engagement with iwi partners, as set out in the MoU, before presenting options on the scale and extent of works to joint Ministers for final

¹¹ Table 4 of the Iwi Engagement Report provides further detail on the decisions required for the various workstreams.

¹² At clause 9.15.1.

decision. These options included whether a new disposal site would be constructed as part of the Project to dispose of contaminated and/or non-contaminated materials and waste. An overview of the options presented and subsequent Ministerial decision are described in Mr Bradley's evidence.

53. For the purposes of my evidence a high-level description of the Phases is outlined in **Table 1**, below. Though not explicitly included in the table, the timing of engagement (in person hui, site visits, workshops) with mana whenua was built into the Project from the onset and included with the scope of works for each specialist consultant at the time of procurement.

Phase:	Description Summary	Timing
Pre-Start	Early-Engagement	
Phase 0	Cultural Impact Assessment Captured the site's cultural significance and impacts generated by the four shortlisted demolition and remediation options. Recommendations and aspirations to mitigate cultural effects were also presented in the report.	Apr – Dec '21
Phase 1	Investigating, Planning and Continued-Engagement	
Phase 1A	Further Investigations & Consenting Strategy Additional investigations and consultation / engagement with the Trust and mana whenua to inform Ministerial decisions and select remediation options for management of contaminated soil and long-term management options for the existing landfill.	No later than 2 years from the Settlement Date
Hold Point	Ministerial Decision Options for the extent of belowground horizontal infrastructure to be removed and the construction of a new disposal site presented to joint Ministers for approval.	
Phase 1B	Consent Application Preparation Drafting demolition and remediation methodology & specifications, assessing rules, and preparation of the AEE for resource consent application(s).	
Phase 2	Consenting and Permitted Activity Delivery*	
Phase 2A	Consent Application Processing Council processing of consent applications, and any associated work & engagement to support the application, including any notification and hearing.	<i>Subject to council consent processing time</i>
Phase 2B	Permitted Activity Delivery	

Phase:	Description Summary	Timing
	Procurement of demolition contractor, removal hazardous building materials and demolition of aboveground structures to slab level.	
Phase 3	Consented Works Delivery	
Phase 3	Hospital Demolition and Remediation Demolition of below-ground structures and remediated contaminated soil.	No later than 7 years from consent(s) being granted
<i>Notes:</i> <i>*Phase 2 workstreams will run concurrently.</i>		

Table 1: Project Phase Descriptions

PROJECT DELIVERY OVERVIEW (PHASE 1)

Waahi Tapu Investigation and Cultural Induction Summary

54. As noted above, early engagement with mana whenua included obtaining a CIA on four shortlisted options for the demolition (described in detail in Mr Bradley's evidence). The assessment included recommendations and tangata whenua aspirations which were incorporated into the design of the Project as much as practicable.
55. In relation to waahi tapu and sites of cultural significance, the CIA recommended that:
 - (a) regard be given to the specific provisions in the HNZPTA and the Protected Objects Act 1975 to protect waahi tapu, significant cultural sites and taonga;
 - (b) a robust Accidental Discovery Protocol (**ADP**), which must be well understood by all stakeholders, be developed and adopted for the duration of construction work;
 - (c) site management protocols be developed to ensure a precautionary approach to site works to manage the potential for waahi tapu and taonga tuku iho discovery;
 - (d) areas identified by iwi be avoided; and
 - (e) the adverse effects of resource use and activity operations be managed so as to appropriately protect areas and sites of significance.
56. Regarding governance, it also recommended that:

- (a) LINZ work in good faith with tangata whenua and escalate the relationship to a formal partnership reflecting Te Tiriti o Waitangi principles as part of the project preplanning phase (what LINZ has deemed to be Phase 1), and to ensure tangata whenua are actively involved in key project planning, contracting and cultural monitoring roles and decision processes;
 - (b) tangata whenua be included in the implementation of the recommendations outlined in this report; and
 - (c) cultural monitors/kaitiaki be appointed for the Project to manage and monitor cultural safety protocols.
57. Further, one of the aspirations of the CIA was that: *"a cultural mapping project be undertaken as a collaborative project with LINZ and Iwi (Maniapoto and Waikato-Tainui) with Tangata Whenua leading to identify and record places of cultural significance including paa sites, urupā, eel weirs and traditional fishing areas, etc."*
58. These recommendations and aspirations led LINZ to enter into a second contract with TAR Block Ltd to undertake the Waahi Tapu Investigation and Cultural Induction Summary.
59. The mapping work ensured mana whenua were actively involved as kaitiaki to identify waahi tapu areas, which differ from archaeological areas identified by the project archaeologist. No intrusive investigations started until the mapping component was complete. Once areas were identified, they were incorporated into Project mapping databases so consultants could plan their investigations with these areas in mind.
60. As a result of the cultural mapping, specific design elements for Project delivery were adjusted. For example, relocating soil sampling locations to avoid waahi tapu and adopting investigation techniques that minimise soil disturbance where locations could not be shifted such as around the new and old morgue (buildings 25 and 19, respectively). These changes were intended to ensure a responsive and inclusive approach to Project delivery.
61. Although the CIA was focused on the demolition and remediation works rather than the initial investigations, LINZ ensured the recommendations that a robust ADP be developed and adopted for the duration of construction work and that Cultural Monitors/Kaitiaki be appointed for the Project to manage

and monitor cultural safety protocols were incorporated into the Project from the beginning (eg as part of Phase 1 rather than Phase 2 and 3).

62. LINZ engaged TAR Block Ltd to develop this material as part of the Waahi Tapu Investigation and Cultural Induction.
63. As such, part of the scope of works was to:
 - (a) develop and host a cultural induction training programme;
 - (b) develop the ADP as part of a Cultural Management Plan (**CMP**);
 - (c) draft job descriptions for Cultural Monitors/Kaitiaki; and
 - (d) appoint two Cultural Monitors/Kaitiaki to support ground disturbance in Phase 1 when being undertaken within the waahi tapu areas and archaeology areas identified.
64. Further, as noted above, the consultants undertaking Phase 1 investigations were required to undergo a cultural induction and training session to enhance their cultural competency for the Project. This induction was also undertaken prior to any investigations that included ground disturbance (such as soil sampling) to inform the consultants undertaking this work of the requirements in the CMP.
65. The cultural induction and cultural monitoring ensured mana whenua were actively involved in their role as kaitiaki of cultural monitoring roles throughout Phase 1 of the Project rather than waiting until demolition and remediation works began.
66. It also acted as a pilot trial of the cultural induction and cultural monitoring, so any learnings could be applied before demolition and remediation works formally began, helping to ensure a smooth operation and implementation of the Cultural Monitors/Kaitiaki roles.

Development of hybrid Multi Criteria Analysis

67. As described in Mr Bradley's evidence, the Deed requires the Crown to consider the views of TNN in reaching a decision on how the demolition waste is to be managed and the extent of infrastructure to be removed and records Ngāti Maniapoto opposition to creating a new landfill onsite. There are two other aspects of the Site which require decisions to be made that

would ultimately establish the scope of works for LINZ to deliver as 'the Project.'

68. As detailed in the Iwi Engagement Report,¹³ these decisions were grouped into four "workstreams" each requiring an options analysis and decision, and therefore engagement with iwi and mana whenua. The workstreams as follows:
- (a) Demolition Waste Management
 - (b) Horizontal Infrastructure Removal
 - (c) Contaminated Land Remediation
 - (d) Existing Disposal Site Long-term Management Works.
69. A framework for Project decision making was developed and implemented as also described in Mr Bradley's evidence.
70. While Ministerial decisions were not required regarding remediation of contaminated soil and the long-term management of the existing landfill (rather these decisions were left to LINZ), LINZ applied the same approach as that which would have been required had these been matters for the Ministers to determine. This included engagement with TNN and mana whenua regarding the options assessments on these two workstreams prior to making decision on the final scope of works, and lodging consent application with the Councils.
71. At the time of scoping the Project, I was familiar with international standards, guidance documents and tools used in the contaminated land industry globally that broaden the factors considered in decision making when remediating contaminated sites to ensure they are done sustainably, such as the ISO 18504:2017 Soil Quality – Sustainable Remediation or the Sustainable Remediation Forum United Kingdom (SuRF-UK) user guides on Sustainable Remediation.
72. These assessments and other standard approaches to MCAs generally only consider environmental, economic, and social criteria, as shown in the box on the left in **Figure 3**, below. As such, LINZ specifically instructed and worked with the consultants to develop a customised approach as part of their proposed methodology, which was included in their response to the

¹³ At Table 4.

relevant CWRs, to ensure it was fit for purpose in the New Zealand context. This was important as the standard approach does not explicitly enable LINZ to meet its obligations as a Treaty Partner or under the RMA, which both require cultural values to be (at least) taken into account.

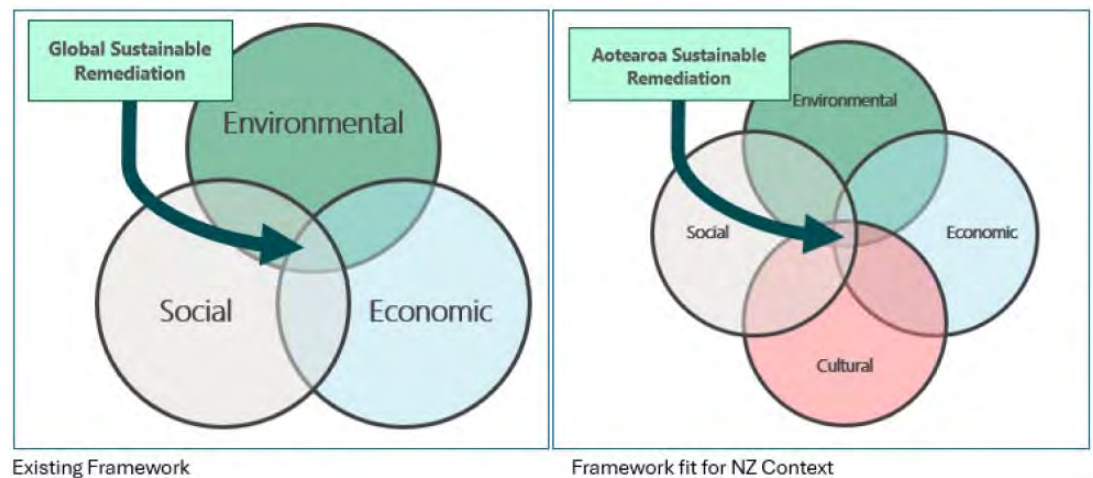


Figure 3: Sustainability Assessment Criteria (LINZ, 2024)

73. FTL were engaged to develop the MCA as a hybrid approach tailored to the Site as part of the 2023 Tokanui Disposal Options Assessment Report, based on the following tools:
 - (a) generic Multi-criteria Decision Analysis tools;
 - (b) frameworks and guidance documents published by the Sustainable Remediation Forum - United Kingdom (SuRF-UK);
 - (c) Mauri model and a range of Māori environmental assessment and performance indicator tools developed by Landcare Research; and
 - (d) the assessment criteria provided to TNN and Joint Ministers.
74. The result lifted cultural criteria (values) to the same level as other criteria being assessed as shown on the box on the right in **Figure 3** above.
75. As there is a gap in a standard MCA approach in relation to the cultural criteria and their indicators¹⁴, the cultural values expressed in the Deed, CIA, the Waahi Tapu Investigation as well as engagement undertaken with mana whenua between early-2022 to August 2023 described in the Iwi Engagement report were used to inform this initial assessment. The assessment criteria, indicators and sub-factors were initially drafted by Dr

¹⁴ An indicator is a single characteristic that represents a potential or actual effect which can be compared across options to evaluate their relative performance. Indicators need to be measurable in some way that is sufficient to allow for evaluation (SuRF-UK, 2020).

Finnigan and reviewed and agreed collaboratively between me, Mr Bradley, Dr Finnigan, Bryan Daly (LINZ Project Manager) and Dee Isaacs, SLR Technical Director Indigenous Māori Knowledge & Planning – Te Poa Taiao, who was engaged to support iwi engagement aspects of the Project. Mr Isaacs helped to ensure proposed cultural values, terminology and expressions were used appropriately before presenting to mana whenua and TNN. An excerpt of the 2023 Tokanui Disposal Options Assessment Report showing the full suite of assessment criteria, indicators and sub-factors is attached as **Appendix KW1**.

76. The draft MCA criteria, weighting and scores were then presented to mana whenua at the Project Update Hui on 18 August 2023, with particular focus on the cultural and environmental (the CIA demonstrated a clear cultural aspect to environmental considerations) criteria and associated indicators and with an aim to seek feedback from mana whenua on what had been selected to be assessed and work together to determine any potential issues/problems with the hybrid MCA and develop solutions together. The weightings applied are as set out in **Table 2** below:

Criteria	No of Indicators	Selected Weighting	Actual weighting taking into account number of indicators for each criteria
Environmental	6	35%	35.9%
Social	6	20%	20.5%
Cultural	6	30%	30.8%
Economic	5	15%	12.8%
Total	23	100%	100%

Table 2: Criteria Weightings

77. Feedback received was that the approach was generally noted as a good model to assess the options. There was a question around the use of the Mauri Model by one attendee who noted that aspects of its use were different. Mr Bradley explained the intent was a hybrid approach which utilised aspects of the Mauri Model, notably the selected weightings and approach to scoring, where were applied to support the priority order detailed in *BRF 23-169 Tokanui Hospital Decision-making process and criteria*.¹⁵
78. This collaborative approach gave LINZ and mana whenua the opportunity to work together to determine issues or problems (particularly in relation to

¹⁵ [Tokaui Hospital - Decision-making process and criteria](#)

potential cultural effects) and develop solutions to mitigate them together. This flexible approach allowed the options to evolve throughout the Project delivery, avoiding the risk of LINZ developing a solution in isolation that might overlook cultural effects and require a full redesign, after engaging with iwi and mana whenua

79. Insights shared by iwi and mana whenua were invaluable in shaping preferred options and ultimately finalising the final scope of works for the consent applications. Key updates to Project methodology and the selection of options under each workstream are described in more detail in the sections below.

Development of Remedial Standards

80. As described in Mr Bradley's evidence, section 9.3 of the Deed required the Crown to use best endeavours to remediate the Site to defined remedial standards, that being that being 85% of the site to a rural residential standard and up to 15% to a managed remediation standard suitable for recreational use.¹⁶
81. These remedial standards are based on two of the five land use scenarios in the NES-CS and represent how people might come into contact with soil in different settings based on activities like soil contact, ingestion, and produce consumption. For example, someone living on a lifestyle block is assumed to eat more homegrown food and have more soil contact than someone in a high-rise apartment. The NES-CS (and accordingly the remedial standards) ensure a consistent, risk-based approach across New Zealand and helps councils, developers, and consultants assess and manage contaminated land appropriately based on how the land is or will be used.
82. As described in the Methodology,¹⁷ the Ministry for the Environment has set 'soil contaminant standards' to protect human health, or SCSs_(health),¹⁸ for five land use scenarios. Acceptable concentrations of specified contaminants for these land uses are defined under the NES-CS, and it is mandatory to use these prescribed values when assessing the risk that contaminated soil might pose to human health. This way of assessing risk is called a "Tier 1"

¹⁶ Unless clause 9.7 of the Deed applies, which provides that if it is impractical to remediate to the rural residential remediation standard or managed remediation standard (as relevant), then remediation may instead be to the standard set out in the remedial action plan and/or site-specific risk assessment. This scenario has not arisen to date.

¹⁷ Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health (Ministry for the Environment, 2011) (**Methodology**).

¹⁸ The term 'soil contaminant standards', SCSs_(health), specifically refers to those numerical concentrations that have regulatory status under the NES-CS.

assessment, which uses general assumptions or "screening levels" about how people might be exposed to contamination and is a quicker and cheaper way to undertake a contaminated land investigation.

83. Many contaminated land investigations in New Zealand utilise a standard Tier 1 assessment; however, for some sites, it is warranted to do a more detailed, tailored assessment, called a "site-specific" or "Tier 2" assessment, based on the specific conditions of that site. These investigations are more costly to undertake as they require significantly more information and data (eg soil analysis) about the site; however, using site-specific data to refine generic SCS assumptions enables a more accurate assessment of exposure and human health risk for the situation.
84. Section 9.5 of the Deed states that the Crown, if it considers it necessary, can undertake site-specific risk assessment(s) (**SSRA**) in respect of any Tokanui Hospital deferred selection property. LINZ therefore had the ability to set remedial standards in accordance with CLMG No. 2¹⁹ and the Methodology, derived through a SSRA as set out in the Deed.
85. Further, section 8.2.2 of the CIA recommended that *"Tangata whenua must be included in their role as kaitiaki, in the development of a Remedial Action Plan to ensure that the most effective and practicable measures will be taken to minimise or mitigate potential risks arising from the migration of leachate to the ground surface due to earthworks and other demolition activities."* As the Remedial Action Plan is developed later in the process of investigating and reporting on contaminated land in New Zealand, LINZ considered the best way to implement this recommendation was to include more emphasis on cultural values/effects earlier in the Project delivery.
86. As such, LINZ included the development of a SSRA report within the scope of the Contaminated Land Investigations CWR with the intent that, following completion of the Detailed Site Investigation (**DSI**) and engagement with TNN and mana whenua, a determination would be made as to whether a SSRA should be undertaken. An SSRA would help refine remediation goals, potentially allowing for targeted clean-up rather than blanket remediation. While this can be more costly upfront, ultimately, it can be more cost-effective in the long run when it comes time to undertaking remedial works. It is also

¹⁹ Contaminated Land Management Guidelines No. 2 – Hierarchy and Application in New Zealand of Environmental Guideline Values (Ministry for the Environment, 2011).

more environmentally and culturally appropriate, helping LINZ fulfil the sustainability principles in the Project.

87. Part of the objectives of the SSRA was to ensure that sustainable remediation principles, such as the retention of soil on site, are upheld and the proposed remedial strategy is completed in a way that will enable change of land use under the NES-CS to a rural residential standard as defined in the Deed. HAIL Environmental Ltd were engaged to undertake the SSRA component of the Contaminated Land Investigation CWR. The 2024 SSRA (Appendix K4 of the Remediation Application) was subsequently authored by Dr Dave Bull in consultation with mana whenua, as described below.
88. The initial approach to the SSRA was presented by Dr Bull at the Project Update Hui on 18 August 2023, which provided an overview of how the site-specific soil guideline values (**SSGVs**)²⁰ (clean-up standards) for the remedial standards are established. A draft remedial strategy was then presented at the Contamination & Closed Landfill Investigations Hui on 13 December 2023 and included an overview of the remedial strategy as well as discussion with mana whenua to help guide establishing the overarching principles that would be used to derive the site-specific remedial standards. There was also information shared regarding how the principles will be incorporated into the remedial options and used to inform the remedial design.
89. The guiding principles for the SSRA were then based on feedback provided at the above engagements as well as mana whenua concerns raised in the CIA, Deed requirements, and what the Maniapoto Environmental Management Plan (**Maniapoto EMP**) requires (notably in relation to kaitiakitanga, water, wetlands, and land) as well as taking sustainable remediation principles into account.
90. Dr Bull therefore derived SSGVs for both the rural residential standard and managed standard which were tailored to the Site. In establishing both sets of standards, the overall objective has been to derive numerical values that are as low as practicable, but no lower than necessary considering these specified future uses.
91. The remedial standards were derived to pose minimal risk to gardening and food production, to people who live on the land, and to soil quality. In

²⁰ As described in the Methodology, when talking about generic numerical values in guidelines for soil contaminant concentrations that are derived on a site-specific / Tier 2 basis, the term soil guideline values (SGVs) is used rather than SCS used in a Tier 1 assessment.

relevant parts of the block, the standards also seek to protect water quality and wetland values including the associated mahinga kai, such as tuna identified in the Wharekōrino Stream (which it was understood was a key concern for mana whenua). The SSRA sought to recognise Ngāti Maniapoto values, and those of the tangata whenua for Pokuru 1B, in particular.

92. The SSRA was finalised on 25 April 2024 and findings presented to mana whenua at the Remedial Options Report Hui, held on 30 April 2024. The outcome of the SSRA is described below.

REMEDIAL OPTION ANALYSIS & SELECTION FOLLOWING FEEDBACK AND ENGAGEMENT

93. As there was a clear process on how the decision on the management of demolition waste and extent of horizontal infrastructure to be removed as part of the Project, and that it is described in Mr Bradley's evidence, the following sections are solely focused on changes to Project scope and summarises the option selection, with a particular focus on cultural effects and iwi engagement.

Remedial Options Analysis

94. The primary objective of the remedial options report (**ROR**) (attached to the Remediation Application as Appendix K5) is to review and capture a robust analysis of options identify the most suitable remediation approach for contaminated soils, to achieve the requirements of the Deed, and in line with sustainable remediation principles. Specific objectives included to:
- (a) assess onsite and offsite options for the management of identified contaminated soil from the hospital;
 - (b) use a holistic approach taking into account environmental, social, cultural and economic factors that meet LINZ requirements and stakeholder expectations; and
 - (c) comply with industry best practice and government sustainability and broader outcome goals.
95. The remedial options identified in the ROR incorporate the findings of multiple site investigations that were conducted between 2022–2024. Most critical to informing the ROR, however, was the confirmation of the SSGVs in the SSRA, because this established the clean-up/remedial targets and the

consultants were then able to quantify how much soil needed to be remediated from the site as part of the Project. The outcome of the SSRA was that more conservative SSGVs were adopted than the generic rural residential SCS because of the engagement with mana whenua. Therefore, LINZ will remediate more contaminated soil than if Tier 1 assessment SSGVs were adopted.

96. As decisions regarding the management of demolition waste and extent of horizontal infrastructure would be removed had been confirmed, the hui held on 30 April 2024 was solely focused on presenting the preliminary remedial options to allow for questions, views and concerns to be discussed to be incorporated into scoring. This hui included a presentation from myself, Dr Bull and Dr Finnigan on the SSRA and preliminary options presented in the ROR, an infographic to summarise the ROR titled "Remedial Options Report Summary (Contaminated Soil)" (included in the Iwi Engagement Report as Appendix C.4) was circulated to mana whenua and TNN following the hui.
97. Eight options were considered, including:
 - (a) Option 1 – Reuse soils as backfill in managed area
 - (b) Option 2 – Soil blending
 - (c) Option 3 - Stabilisation Off-site disposal
 - (d) Option 4 - Bioremediation/destruction
 - (e) Option 5 – Contain soils on-site within cell in managed area
 - (f) Option 6 – Place soils in existing disposal areas
 - (g) Option 7 – Dispose of soils to off-site landfill; or
 - (h) Option 8 – a combination of the above options.
98. The hybrid MCA approach described above was implemented using the same criteria and weightings previously endorsed by mana whenua and TNN. The result of the options analysis and consultation with mana whenua put preliminary scoring as follows:
 - (a) **Option 6** was preferred due to its cost-effectiveness, cultural acceptability, and environmental benefits, especially when paired with upgrades to the existing landfill (described further below)

- (b) **Option 7** was less favoured due to cultural concerns (shifting contamination to another rohe) and high transport costs
- (c) **Options 1 and 2** were low-scoring due to limited effectiveness and potential risks
- (d) **Options 3, 4, and 8** were excluded from scoring due to technical feasibility and/or regulatory impracticalities.

Closed Landfill Options Analysis

99. As described elsewhere, the existing landfills remain the responsibility of the Crown and are not required to be remediated. The Crown, however, must remain compliant with existing consent conditions. There were some areas identified in investigations undertaken by FTL where the landfill is not currently compliant and other aspects of the landfill that could be improved to provide better protection to the surrounding environment. These included:
- (a) non-compliant cap thickness in some locations;
 - (b) lack of leachate and gas collection systems;
 - (c) groundwater contamination leaching from the landfill (notably boron);
 - (d) flooding risks; and
 - (e) Culvert 3 failure risk.
100. Management these issues informed the development of **five main options**, ranging from minimal intervention to full removal:

Option	Description
1 – No Change	Continue monitoring only; no physical works
2 – Minimum Works	Improved capping and removal of Culvert 2.
3 – Intermediate Works	Option 2 + transfer of contaminated soil from hospital to landfill and removal of medical waste.
4 – Advanced Works	Option 3 + removal of Culvert 3, stream reinstatement, and shifting of refuse from unconsented areas to consented landfill zones
5 – Off-site Removal	Complete removal of all landfill material to a Class 1 landfill.

101. Options were assessed against six criteria:

- (a) Optimising use of existing landfill;
- (b) Improved waste containment and capping;
- (c) Reduced leachate generation and groundwater contamination;
- (d) Elimination of Culvert 3 failure risk;
- (e) Flood mitigation; and
- (f) Minimal off-site effects during works.

Options Selection Following Engagement

102. Section 6 of the Iwi Engagement Report includes summaries of each engagement and examples of where feedback has been incorporated into Project delivery. The Phase 2 Addendum Report (**Appendix MB1**) also includes a summary of the themes of the feedback heard during the Phase 1. Specific to the remedial options however, in person and virtual hui with mana whenua on 30 April 2024 and 21 May 2024 was undertaken to help refine remedial options and a hui was held on site on 23 July 2024 to present LINZ preferred option.
103. This engagement was undertaken to ensure the change in scope to integrate soil remediation required at the hospital and the proposed existing landfill repair and enhancement works was understood. This also gave mana whenua numerous opportunities to raise concerns and ensure any potential cultural effects identified could be mitigated through the design.
104. Between the preliminary ROR and selection of preferred option by LINZ, feedback from mana whenua, in particular, regarding protection of waterways from the closed landfill, was incorporated into the design.
105. Engineering refinements were also made to improve constructability and reduce environmental impact. Ultimately, Option 6 – Utilise Existing Disposal Site of the ROR and Option 4 – Advanced Works from the Existing Disposal Site Repair and Upgrade Works Report, were selected as the preferred option because they:
 - (a) Provided the greatest overall benefit across all criteria;
 - (b) Addressed compliance issues and long-term risks;
 - (c) Allowed for reuse of contaminated soil from hospital demolition;

- (d) Minimised off-site disposal and disturbance to other rohe; and
 - (e) Incorporated stream restoration and flood mitigation.
106. The integration between the demolition and remedial work required on at the hospital site was also driven by efficiency and practicality as using the existing landfill infrastructure allowed for better environmental control and streamlined regulatory approvals, as both activities were covered under coordinated resource consent applications submitted to the Councils.
107. The scale of this expanded scope goes above and beyond simply remaining compliant with consent conditions and includes a significant upgrade to the landfill cap and potential groundwater diversion to better protect the Wharekōrino Stream. This option is not the cheapest for the Crown to implement, but it provides a better approach to long-term management of the existing landfill and enables LINZ to meet the remedial requirements of the Project.
108. Following selection of the preferred option, the LINZ Project team prepared the Applications for lodgment with the Councils. It was decided to split the two applications to not delay the remediation of the hospital site, if, for example, there were any delays to the Landfill Application. The Applications were submitted on time in compliance with the requirements of the Deed and marked the completion of Phase 1 of the Project.
109. LINZ continued engagement with TNN and mana whenua throughout Phase 2 while the consent applications were being processed as described in the draft Phase 2 Addendum Report, attached to Mr Bradley's evidence as **Appendix MB1**.

RESPONSE TO SUBMISSIONS

110. A key theme underpinning all submissions is the extent to which the Project reflects, or provides for, cultural values.
111. This has always been at the forefront of the Project and something LINZ has exercised best endeavours to incorporate.
112. The embedding of cultural values into Project design and delivery are described in detail throughout my evidence (and in the AEEs and the evidence of the other witnesses). Specifically, the feedback heard influenced how the Project should be approached to mitigate potential cultural effects

identified by mana whenua and TNN throughout Phase 1 and Phase 2 ensuring Māori perspectives shaped the entire process. How these effects have been mitigated is set out in Section 6 of the Iwi Engagement Report and section 4 of the Phase 2 Addendum Report which includes summaries of each engagement and examples of where feedback has been incorporated into Project delivery.

RESPONSE TO WRC SECTION 42A REPORTS

113. At page 43 of the WRC section 42A report, Ms Hills considers that final reporting should include identification of SQEP overseeing remediation works, site validation and ongoing monitoring and management plan, and a finalised version of the RAP should be submitted to WRC before works commence
114. LINZ has engaged contaminated land SQEPs (FTL and HAIL Environmental), for the duration of the Project who will be responsible for:
- (a) finalising the RAP to be submitted to WRC before works commence;
 - (b) overseeing the remedial works;
 - (c) site validation reporting; and
 - (d) ongoing monitoring and management plan.
115. As a minimum, LINZ require that any person certifying a report for NES-CS purposes holds a Certified Environmental Practitioner Site Contamination (**CEnvP-SC**) certification under the CEnvP scheme run by the Environment Institute of Australia and New Zealand (**EIANZ**).
116. The final Erosion and Sediment Control Plan, including full methodology, will be prepared by a contractor from FTL (and peer reviewed by an engineer from FTL) and provided to WRC at the design stage to ensure water quality degradation is minimised and potential effects on air quality are managed as far as practicable.

12 September 2025

Kimberly Ann Wepasnick

**APPENDIX KW1: EXCERPT OF THE 2023 TOKANUI DISPOSAL OPTIONS
ASSESSMENT REPORT**

[Attached separately]

Criteria	Indicator	Sub-headings
Environmental	Effects on land use/ productivity	Contamination of the land Associated effects on land use/productivity
	Effects on surface water	Quantity – peak flows/volumes Quality Silt/sediment Scour/erosion
	Groundwater effects	Groundwater table effects (groundwater levels) Quality Use
	Ecological effects	Plants/trees/birds and other fauna Aquatic species
	Air emissions	Dust/odour Particulate/volatile gases Greenhouse gases (carbon dioxide, methane)
	Sustainability	Reuse/recycling Resilience (e.g. ability to cope with climate change effects) Legacy (future generation) issues
Social	Public health and safety	Physical injury Contaminant effects on human health Traffic impacts
	Worker health and safety	Physical injury Contaminant effects on human health Traffic impacts
	Neighbourhood effects	Dust, noise, odour, vibration, traffic Changes to surface runoff flow patterns
	Amenity/land use	Nuisance Visual effects Land use limitations
	Employment opportunities	Short term during works Long term – ongoing maintenance
	“Wellbeing” perceptions	Dislike of having landfill in local area Personal associations with site history
Cultural	Loss of mauri	Loss of sense of identity/independence associated with having a home base
	Destruction of wāhi tapu (cultural/spiritual) sites	Ancestral burial sites Loss of cultural heritage Disruption of cultural connectivity Damage Iwi relationships Impact on land and resources
	Kiatiakitanga (guardianship) and Whenua (land)	Extent of Māori active involvement in control, management and protection of land

		Restrictions on land use (physical, contamination, etc.) causing loss of resources/ opportunities for economic development
	Healing the land (Papatūānuku)	Soil health
	Restoration of water services (Wai Ora)	Water quality Ecology
	Mahinga kai (garden, cultivation, food gathering places)	Garden, cultivation, food gathering places Collecting plants for various (e.g. medicine, weaving) purposes (e.g. toetoe, raupo, harakeke, paopao)
Economic	Demolition/remedial works costs (capex)	Capex costs were made on a qualitative, judgement basis
	Ongoing maintenance costs (opex)	Opex costs were made on a qualitative, judgement basis
	Effects on land value	Impact of demolition/remedial works on land value
	Effects on potential earnings from land	Extent and productivity/health of land area available for use
	Minimisation of future liabilities	Legacy effects of residual infrastructure/contamination left in place or deposited in landfill onsite