Te Kaunihera-ā-Rohe o Taratahi
CARTERTON DISTRICT COUNCIL

9 October 2025

[redacted]

Tēnā koe [redacted]

LOCAL GOVERNMENT OFFICIAL INFORMATION AND MEETINGS ACT Request: 2025-51

Thank you for your email of Friday 3 October 2025 to the Carterton District Council requesting the following information:

> *"With respect to the recent land purchase and the engagement of project management consultants, could you please advise whether a project feasibility study has been completed?*
>
> *If so, it would be appreciated if this could be shared with all candidates for review. This would help provide clarity on key considerations to date, including geographical suitability, project viability (such as the likelihood of obtaining necessary consents), and any pre-project consultation undertaken with iwi.*
>
> *Additionally, could you please clarify why the engagement of the project management consultants was not put through a competitive tender process, in line with government procurement guidelines?"*

Your request has been considered under the Local Government Official Information and Meetings Act 1987 (the Act).

As advised in my email dated 6 October 2025, the Business Case and associated information was presented to Council at a public excluded session in June of this year. The reasons for withholding this information in June (to undertake commercial negotiations) have now been completed, and we can now release the information attached as **Appendix A and B.**

Where the information has been withheld from the documents the information has been withheld under the following sections of the Act:

- *7(2)(a) of the Act, to protect the privacy of natural persons, including that of deceased natural persons; and*
- *7(2)(b)(ii) - protect information where the making available of the information would be likely unreasonably to prejudice the commercial position of the person who supplied or who is the subject of the information.*

With regards your question about our procurement, I can confirm our policy is to tender works above $150,000 unless there is a good reason not to do so. Expenditure below $10,000 is not tendered, and expenditure between $10,000 and $150,000 are at the discretion of the Manager or CEO. This project will include several workstreams that are above the $150,000 threshold which will be tendered. We anticipate the Professional Services and Construction aspects will be tendered via GETS (the government tender system), while other aspects each below $150,000 (consenting, legal, project management) will be at the relevant managers discretion, depending on the scale of work required.

Where information has been withheld under section 7(2), I have considered, as required under section 7(1) of the Act, the public interest considerations favouring its release. I have identified no public interest considerations which outweigh the need to withhold information at this time.

Please note, the Council proactively publishes LGOIMA responses on our website. As such, we may publish this response on our website after five working days. Your name and contact details will be removed.

Thank you again for your email. You have the right to ask an Ombudsman to review this decision. You can do this by writing to info@ombudsman.parliament.nz or Office of the Ombudsman, PO Box 10152, Wellington 6143.

Nāku noa, nā

Geoff Hamilton
Chief Executive
Carterton District Council

Te Kaunihera-ā-Rohe o Taratahi
CARTERTON DISTRICT COUNCIL

9.1 WAINGAWA WATER STORAGE PROJECT

The Council is satisfied that, pursuant to s48(1)(a)(i) of the *Local Government Act 2002*, the information to be received, discussed or considered in relation to this agenda item is:

s7(2)(h) the withholding of the information is necessary to enable Council to carry out, without prejudice or disadvantage, commercial activities.

1. PURPOSE

For the Council to consider the findings of the business case for the Waingawa Water Storage Project and to consider progressing through to the pre-construction stage of the project.

2. SIGNIFICANCE

The matters for decision in this report are not considered to be of significance under the Significance and Engagement Policy.

3. BACKGROUND

The Waingawa Industrial Park has been identified as a key area for future industrial growth in the Wairarapa and Greater Wellington region. Its favourable topography, proximity to the railway, access to renewable energy, and the recent establishment of a process water facility make it an attractive location for a variety of industries to consider setting up operations. The Wellington Region is short 698ha of Industrial Land according to a recent report released by the Wellington Regional Leadership Committee. The report is included as **Attachment 1.**

The new process water facility, which is scheduled for completion in July 2025, will provide the Waingawa industrial area with access to affordable water at approximately 50% of the cost of treated water. This development has the potential to attract new "wet industries" to the region, and to significantly boost the local economy. Increasing the volume of water available for processing will serve as a substantial economic multiplier for the area.

Annual yields from irrigated farmland can be significantly higher than unirrigated land, sometimes by as much as 100%. Additional irrigation capacity can greatly benefit the farming community, and if located close to the industrial area, can also provide significant economic benefits for industrial users. It is for this reason that water storage in the Waingawa area has been discussed for decades.

On 19 February 2025, officers applied to the Ministry of Business, Innovation and Employment – Kānoa for funding for the Waingawa Water Storage Concept Project through the Regional Infrastructure Fund. The outcome of this application is included in **Attachment 2.**

At the same time, Vitruvius was contracted to conduct a project feasibility study, which was completed by 28 February 2025. Additionally, they prepared a project business case, which was finalised on 15 May 2025. The full Vitruvius Business Case is included as **Attachment 3.**

On 22 May 2025 officers received notification from Kānoa that it had been successful in its application for funding.

4. DISCUSSION

The Business Case for Additional Water Storage in the Waingawa Industrial Area

Summary:

"The economic and financial case for the project demonstrates its significant long-term economic viability. The project is projected to deliver substantial benefits to the region, including increased industrial output, enhanced agricultural productivity, and regional economic growth. These benefits, quantified through the cost-benefit analysis, confirm the project's potential to generate a positive return on investment and contribute to the Wairarapa's economic resilience." – Waingawa Water Storage Facility Business Case (Attachment 3, page 45).

Key findings:

- The Business Case is not dependent on grant funding.
- Benefit Cost Ratio (BCR): 2.1 (Option A) - page 36
- BCR Sensitivity Analysis: 1.4 – 2.6 - page 37
- Total net profit (undiscounted) at 40 years: $110,986,000 - page 45
- 352 new jobs – Economic stimulus of $38,991,166 per annum - page 27
- Net profit from Gravel - $1,790,000 – page 30

Notable Considerations:

- Construction estimates include 50% contingency
- Conservative uptake of 20 years
- Extraction and sale of aggregate only focused on the dam area – could be increased
- Process water will be accessible from July 2025; therefore, uptake can commence

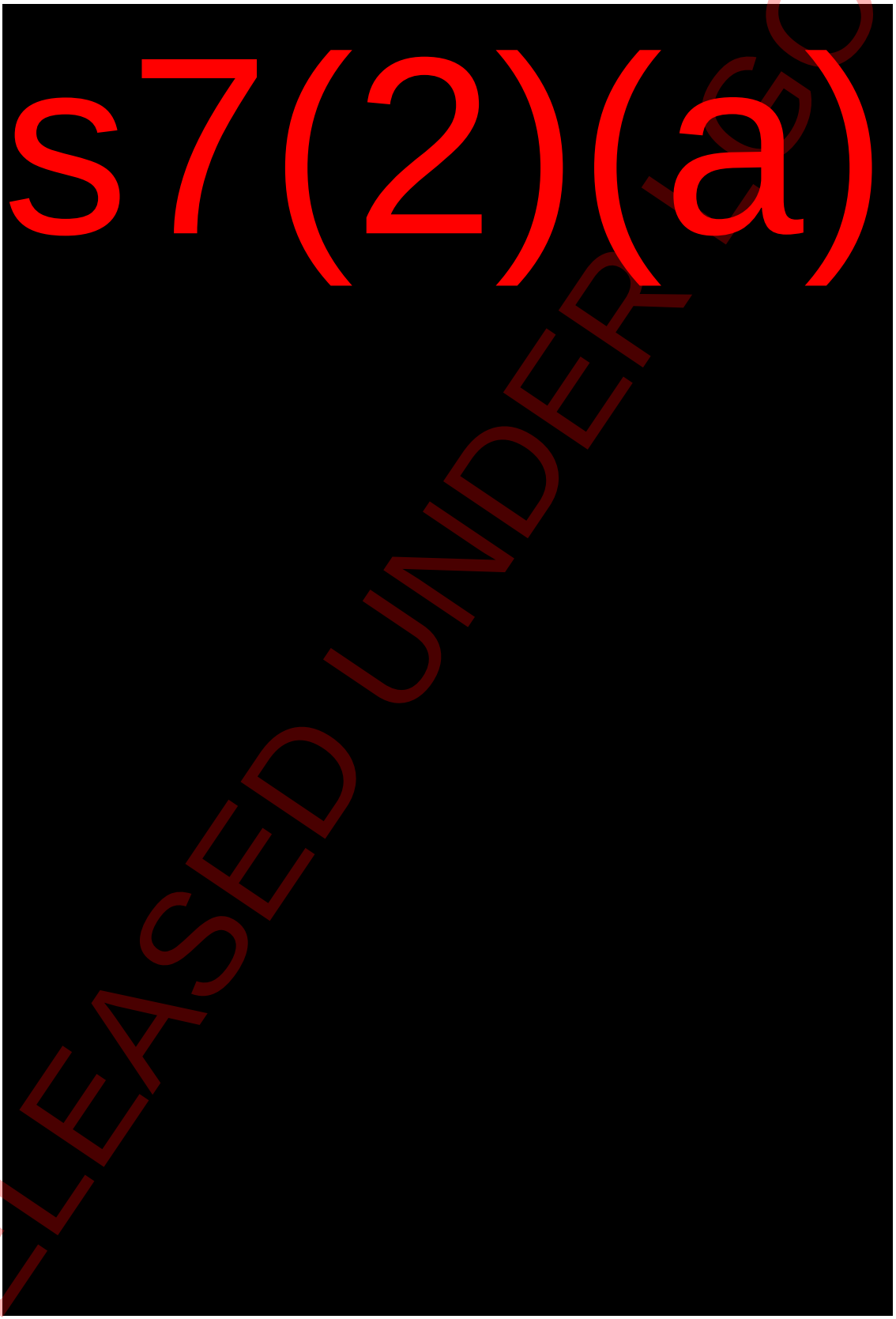
A project that has a Benefit Cost Ratio (BCR) that is greater than 1 indicates it will produce more income, than it costs to generate the income. The BCR calculation is discounted, that is it takes into account the timing difference between investing capital now, and earning income in later years.

The Waingawa Water Storage Project business case has a BCR of 2.1 indicating that for every $1.00 spent, it will generate $2.10 of income. Even when considering the potential for project risks to increase, adversely impacting costs or returns, the sensitivity analysis still indicates a positive BCR of 1.4 : 1.

The Business Case focusses on providing water to industrial users as the highest value user group. Providing water for agricultural irrigation is also a viable option. Agricultural users are likely to take longer to invest in irrigation infrastructure, hence the initial focus on industrial users.

The Business Case also assumes that a suitable area of land can be acquired for the purpose of storing water, that is within close proximity of the Water Race network and the Waingawa Industrial area. Option A of the Business Case requires a minimum effective area of 10 hectares, while Option B requires 20 hectares effective is available to complete this project.

5. PROPOSED LOCATION



Securing a site to undertake the Waingawa Water Storage project is a critical element of Phase 1. Management will continue to investigate options to secure a suitable site if neither of the above two sites are able to be secured.

6. OPTIONS

The concept of a large-scale water storage project in Waingawa has been discussed for a number of years and is fairly well understood. Carterton District Council is also in a unique strategic position in which it can choose its role in the future of the Water Storage Facility.

Exactly what role Council should take in the development of non-potable water supply is less clear. The supply of non-potable water could be considered as outside core activities. The investment in this project is also not considered or budgeted for in the Council's 2024-34 Long-Term Plan.

Council has however, pursued a strategy to develop the Industrial area of Waingawa further, including the significant investment made in Process Water, which is scheduled to become operational in July 2025. Further development to support the Waingawa Industrial area is consistent with this strategy, as well as the Combined Wairarapa District Plan.

The options include:

Option 1 – Do Nothing

The Business Case produces a positive BCR, which means it could be funded by any entity with sufficient appetite to undertake the investment. This could be a private investor, property developer, industrial user, iwi entity, or Territorial Authority.

Carterton District Council owns the water race resource consent for the diversion of water from the Waingawa River into the water race network. This resource consent is held on behalf of all water race owners.

A significant amount of water available under this resource consent is not being utilised and could be available for recharging a large water storage reservoir during the winter months. Charging a large water storage reservoir during winter would not impact water race owners, who are unlikely to need the water race for irrigation during winter. A private investor developing this project would need to obtain permission to take water from the water race network from Council. Other than this, there appears to no impediment for a private developer wishing to undertake this project.

Option 2A – Develop, Own, and Operate the Asset

Under this option CDC would underwrite the investment, construct the water storage facility and associated infrastructure, own and operate the asset, which includes selling all available water to users. Any profits remaining after paying operational costs, and repaying debt, would be retained by the Council for the benefit of the ratepayers.

Underwriting the investment comes with both risks and opportunities. In the event the project is delivered for a cost that is lower than forecast in the Business Case, the expected BCR would increase accordingly. This additional benefit would accrue to Carterton District Council. Conversely if the project is overspent, this cost would be borne by CDC, and the BCR will be negatively impacted.

Under this option, the operational costs of the Waingawa Water Storage project would include a share of Council overheads. The inclusion of an additional activity to share a portion of Council's overheads would, all other things being equal, result in lower overall rates increases, but not materially so.

Option 2B. Establish a Special Purpose Vehicle (SPV) with Council Shareholding

Under this option CDC would establish a new entity called a Special Purpose Vehicle which could be a limited liability company, a limited partnership, a trust or joint venture. Shares in this Special Purpose Vehicle would be sold to potential investors, providing funding for the construction of the water storage facility, and reducing the need for debt. The target would be to sell more than 50% of shares in the SPV, so the entity was not included in CDC's financial reporting or be consolidated in Council's Local Government Funding Agency (LGFA) debt limits.

The balance of construction funding not raised from selling shares would need to be borrowed. Depending on the levels of participation from other partners, this borrowing may need a guarantor to support it, which would likely be Council.

CDC would undertake construction of the water storage facility, on behalf of the SPV. The resulting asset would be owned by the SPV, not Council. Cost savings, or cost overruns occurring during construction would accrue to the SPV.

The SPV would operate the asset, which includes selling all available water to users. Any profits remaining after paying operational costs, and repaying debt, would accrue to the SPV. As a shareholder Council would be entitled to sharing in these profits, depending on the percentage of shares held, and any shareholder agreements.

Council may be able to repatriate the profits in cash, via dividends, depending on the cashflow of the SPV, the shareholding of Council, and / or the views of other shareholders. However, it is expected that any potential dividend payments would likely be some years in the future.

Being separate from Council, the operational costs of the Waingawa Water Storage project would not include a share of Council overheads.

Option 3. Establish a Stand-Alone SPV – with No Council Shareholding

Under this option CDC would establish a new SPV and sell all shares in the SPV to investors. In parallel, CDC would continue to develop and construct the water storage facility to the point of practical completion.

Once complete, the asset, debt, operations and ownership of the water storage facility would transfer over to the SPV, and Council would have no further role to play.

All the risks and benefits of the water storage facility would accrue to the SPV.

Summary

Balancing the above options involves consideration of the benefits and risks involved.

The potential benefits for Council include:

- Potential profit from the supply of industrial water, offsetting other Council costs.
- Uplift in land value of industrial/surrounding area – this would have a positive impact on urban and rural ratepayers.
- Utilisation of consented water take.
- Improved reputation with central Government and the community – with our ability to deliver on commitments, and capital projects on time, on scope and on budget.
- Additional (albeit not material) offset of Council overheads costs.
- Improved reputation – for supporting economic development, stimulating the economy and job creation.

Some of the potential risks include:

- Inability to secure a suitable site.
- Inability to secure funding for the project (either through Kanoa, or LFGA)
- Cost overruns reducing the BCR below 1.
- Delays in earning revenue from the sale of water.
- Changes to the Water Race resource consent restricting the amount of water which can be utilised for water storage.
- Negative feedback from downstream water race owners.
- Lack of business development in the Waingawa Industrial area, especially businesses with high water demands.

7. NEXT STEPS

It is proposed to deliver the project in two stages. The project will follow a phased approach, with Phase 2 dependent on the successful completion of Phase 1 to the council's satisfaction.

Phase 1 – Pre-Construction:

- Land purchase
- Resource Consent Strategy and Assessment.
- Market analysis
- Legal advice on Significance and Engagement requirements
- Procurement
- Field investigations
- Project detailed design for construction
- Consultation with key stakeholders, including Iwi
- Update of Project estimate.
- Special purpose vehicle (SPV) design and options review

Phase 2 – Construction and Commercial arrangements

- Implementation of SPV, if required
- Construction of the project
- Commissioning of the facility

8. CONSIDERATIONS

8.1 Climate change

Water Storage will provide resilience to some of the effects of Climate Change.

8.2 Tāngata whenua

Water is of significance to Māori and therefore the matters in the report might be of interest to Māori. If the project proceeds, we will seek endorsement and input from Māori.

8.3 Financial impact

The total project estimate for both Phase 1 and Phase 2 is $25,000,000 including contingencies.

It is proposed that the project could be funded through:

1. CDC LGFA loan $5,000,000
2. Kānoa Preconstruction loan s7(2)(b)(ii) $3,000,000
3. Kānoa Construction loan $17,000,000

The Kānoa loans require s7(2)(b)(ii) Co-Funding. The initial preconstruction loan requires s7(2)(b)(ii) of co-investment, while the Construction loan requires a further co-investment of s7(2)(b)(ii)

Depending on discussions with the landowners, the land purchase may require up to $3.5m of investment. It is recommended that CDC secures the land purchase independently from the Kānoa loan, as a majority portion of our co-investment. In the event the project does not proceed CDC will be able to realise this investment through disposing of the surplus land.

If the overall value of the project is delivered for less than $25m, the co-investment portion will be adjusted accordingly.

The Kānoa loans, along with capitalised interest, will be finalised on completion of the construction phase. Repayment terms have not yet been agreed, but it is expected to include annual repayments, which may be deferred for a period until new users are connected and being charged.

Key benefits of accepting Kānoa Loan

Phase 1 of the project will be delivered through a s7(2)(b)(ii) loan. s7(2)(b)(ii) [redacted]

s7(2)(b)(ii)

The involvement of Kānoa through a s7(2)(b)(ii) and with independent peer review and oversight should provide additional confidence in the viability of the project, and the project team.

8.4 Community Engagement Requirements

The matters for decision in this report (progressing with Phase 1) are not considered to be of significance under the Significance and Engagement Policy.

A decision to progress with Phase 2 (construction) may be considered differently under our Significance and Engagement Policy, and will need to be critically reviewed at that time.

8.5 Risks

The success of the project is dependant on a number of factors which will be further clarified and better understood following the completion of Phase 1. This milestone gate will provide Council with an opportunity to review new and updated information before considering the larger investment required for construction of the Water Storage facility – either Option A or Option B.

s7(2)(b)(ii)

It is recommended CDC's co-funding investment is made through the purchase of a suitable site to construct a water storage facility of at least 1,000,000 CUM i.e. at least 20ha effective.

8.6 Wellbeings

Social

- A strong and effective council providing trusted leadership.

Cultural

- Māori aspirations and partnerships are valued and supported.

Environmental

- An environmentally responsible community committed to reducing our carbon footprint and adapting to climate change.

Economic

- Quality fit-for-purpose infrastructure and services that are cost-effective and meet future needs.

9. RECOMMENDATION

That the Council:

1. **Receives** the report.
2. **Agrees** to proceed with **Phase 1 – Pre-Construction** of the project.
3. **Notes** that the Council will be presented the findings of Phase 1, before being asked to consider either:
   (a) Committing further investment and borrowing for Phase 2 or
   (b) Concluding the project is not viable and s7(2)(b)(ii) [redacted]
4. **Approves** a Phase 1 project budget of $6,500,000 as unplanned expenditure funded by a combination of:
   - Up to $3,500,000 additional LGFA borrowing for a land purchase, and
   - $3,000,000 Kānoa Pre-Construction s7(2)(b)(ii) Loan
5. **Delegates** authority to the Chief Executive to negotiate and execute the Kānoa s7(2)(b)(ii) loan agreement on behalf of Carterton District Council.
6. **Delegates** authority to the Chief Executive to negotiate and purchase suitable land for the project.

File Number: **461059**

Author: **Johannes Ferreira, Infrastructure Services Manager**

Attachments:

1. Industrial Land Report, WRLC 18 March 2025

s7(2)(b)(ii) [redacted]

3. Waingawa Water Storage Business Case

s7(2)(a) [redacted]

Wellington Regional Leadership Committee
18 March 2025
Report 25.45

For Decision

INDUSTRIAL LAND REPORT

Te take mō te pūrongo
Purpose

1. To update the Wellington Regional Leadership Committee (the Committee) on the Industrial Land Study (the Study), reflecting the latest data, context, and related initiatives, and to seek approval to implement the recommended response to its findings.

He tūtohu
Recommendations

That the Committee:

1 **Endorses** the Industrial Land Study – Summary Report (Attachment 1).

2 **Agrees** to address the industrial land issues identified in the report through a Regionally Coordinated, Locally Led approach.

3 **Endorses** the Wellington Regional Leadership Committee (WRLC) Secretariat, alongside the Project Sponsor, to develop the structure, terms of reference, and other programme materials.

4 **Notes** that members of the WRLC Senior Staff Group will help ensure the programme is practical and fit for purpose, while also ensuring the local response is appropriately resourced.

5 **Notes** that any additional funding required will be managed by the WRLC Secretariat within the existing WRLC project budget, through the reprioritisation of other projects.

Te tāhū kōrero
Background

2. The WRLC commissioned the Study to better understand the anticipated shortfall in industrial land across the Wairarapa-Wellington-Horowhenua region over the next 30 years and to identify opportunities to support future industrial growth.

3. The Housing and Business Development Capacity Assessment (HBA), completed in September 2023, found that while the region has enough business land overall, there is expected to be a shortfall in industrial land, particularly in large vacant industrial lots.

4. In addition, the WRLC's Regional Economic Development Plan (REDP) highlighted the need for further research to ensure sufficient industrial land is available to attract businesses, support job creation, and enable sustainable economic growth.
5. Industrial land plays a key role in supporting jobs and a strong regional economy. However, recent trends show that it is often the most affordable land and therefore at higher risk of being converted to other uses, such as retail or residential. This puts existing industrial sites under pressure for redevelopment. Some industrial sites are also vulnerable to natural hazards, making them unsuitable for future use. A lack of coordinated planning for industrial land has led to gaps in understanding the region's long-term industrial land needs.
6. This project aligns with the REDP's goal of creating 100,000 new jobs over the next 30 years to support population growth. It also complements the Wellington Regional Growth Framework and the development of a Future Development Strategy (FDS) under the National Policy Statement on Urban Development (NPS-UD).
7. Research and analysis indicate that proactive measures are needed to address the growing shortfall in industrial land. Availability constraints are already affecting the sector and resulting in businesses relocating from the region and will continue to do so in the future.

Te tātaritanga
Analysis

Findings from the Research and Analysis

8. The Study uses the Ministry for the Environment's definition of industrial land, which includes manufacturing, processing, storing, and other activities related to materials and goods. Most councils in the region have adopted this definition in their district plans.
9. Industrial land is a subset of business land, which refers to land zoned or identified for business activities in urban environments. This includes industrial, commercial, large-format retail, and mixed-use zones, as defined by the NPS-UD and used in HBAs to ensure sufficient capacity for business activities.
10. The region currently has 1,705 ha of industrial land zoned for industrial use, plus an additional 90 ha in future urban zones. Existing industrial areas are concentrated in Wellington, Hutt, and Porirua cities, with the largest zones being Seaview (300 ha), Waingawa (196 ha), and Porirua. The 2023 HBA estimates a demand for 9,181,700 m^2 of business floor space by 2051, with an additional 698 ha required for industrial use.
11. Industrial land demand is driven by space-intensive activities, with growth expected in Hutt and Wellington cities and districts, but regional spread is anticipated due to supply constraints. Despite sufficient business land across the region, much of it is not suitable for large-scale industrial uses, particularly for

businesses requiring larger sites. Current vacancy rates for industrial land are low, with Wellington, Hutt, and Porirua having vacancy rates around 2.4%.

12. Industrial areas are facing encroachment from residential and commercial developments, and resilience concerns (e.g., natural hazards and extreme weather) may affect future land suitability.

13. This assessment is based on a desktop analysis conducted at a specific point in time to identify potential areas for industrial land use. Given that site characteristics, such as land ownership or current use, may change, further detailed local-level analysis will be required to assess the suitability of individual areas for further investigation.

Stakeholder Engagement:

14. Stakeholder input was gathered throughout the Study and incorporated into the analysis. Engagement with industry highlighted the need for affordable industrial sites and informed the development of site selection criteria. Councils and industry stakeholders provided input to support the identification of potential growth areas and to ensure the Study reflects the region's needs.

Iwi Engagement:

15. Preliminary discussions were held with iwi partners to introduce the study's purpose. While deep engagement was not expected at this stage, a key recommendation is to ensure iwi continue to be engaged and actively involved in the future work.

Identification of Growth Areas:

16. The Study focused on identifying potential "investigation areas" outside commercial centres where larger industrial sites could be accommodated. It did not include identifying additional space for light industrial land within existing centres, though this is recommended for further work.

17. A GIS model was used to map areas suitable for greenfield industrial development, considering land use constraints, resilience factors, and urban growth areas. The results showed limited opportunities in central Wellington, Porirua, and Hutt City, but more potential land was identified in Wairarapa, Kapiti, and Horowhenua.

18. A high-level review of 15 areas identified through the model was conducted, with local authority input supporting a Multi-Criteria Assessment (MCA) process to determine which sites should undergo further investigation. More detailed work will be needed to assess the suitability of these sites as part of any re-zoning approach.

Conclusions:

19. The region faces a shortfall in industrial land, particularly in central areas, due to competition with residential and commercial uses. Existing industrial areas are under pressure, and resilience risks such as natural hazards and extreme weather may affect future suitability. An additional 698 hectares of industrial land will be needed, with businesses prioritising proximity to Wellington for transport, markets, and employees.

20. While the exact timeframe for a shortfall is uncertain, constraints on availability and cost are already affecting the sector and are expected to persist. Proactive planning and investment are essential to ensure future supply.
21. Development-ready land for large-scale industrial use is scarce across the region, and investment is needed to address the shortfall. The Study confirms the need to safeguard additional land for industrial growth in both the short and long term.
22. Recommendations include securing greenfield land for industrial purposes through zoning changes and expanding the capacity of mixed-use and commercial centres to support industrial uses. Further investigation should focus on affordable industrial sites and how regional planning can integrate industrial land needs with infrastructure investment, housing supply, and climate adaptation efforts.
23. Significant investment is needed to address the industrial land shortfall and overcome geographical constraints while balancing the need to protect land for housing and food production industries. A combination of measures, including government intervention and infrastructure investment, will be necessary to ensure sufficient industrial land is available to meet both current and future needs.

Recommendations and Next Steps:

Regional Industrial Land Planning

24. Establish an oversight group (Industrial Land Steering Group - ILSG) to oversee planning and coordination.
    a Conduct further analysis on high-ranking potential industrial areas, including site constraints, infrastructure needs, and land ownership considerations.
    b Assess readiness and sequencing of sites for rezoning and development.
    c Integrate findings into the FDS review.

Integration with Infrastructure Planning

25. Explore pathways to progress infrastructure investment, including funding options and regulatory mechanisms.
26. Ensure industrial land needs are incorporated into regional energy planning.

Engagement with the Private Sector

27. Work with developers and businesses to align industrial land planning with industry needs.
28. Promote available and future industrial land opportunities to attract investment and retain businesses through Wellington NZ and Councils.

Adaptation and Safeguarding

29. Integrate industrial land considerations into regional climate adaptation planning.
30. Protect existing industrial land from encroachment by urban uses and ensure appropriate planning regulations.
31. A detailed recommendation of specific actions is detailed in the Study **(Attachment 1)**.

Nga kōwhiringa
Options

32. There are several broad options for implementing the Study's recommendations:

Option	Pros	Cons
Option 1: Private sector to lead. Minimal public sector involvement.	• Minimal public sector resource or funding required. • Drives private innovation, ownership and competition. • Avoids political complexity and bureaucracy.	• Risk of uncoordinated and fragmented outcomes. • Private sector investment may not consider the wider public good. • Potential gaps in service provision, particularly in less commercially viable areas. • No guarantee of alignment with long-term regional goals.
Option 2: Completely Regional Approach – Centralise the Entire Effort	• Ensures consistency and strategic regional alignment • Stronger ability to leverage collective funding and investment. • Greater negotiating power with central government and private sector. • More efficient use of resources through economies of scale.	• Risk of bureaucratic delays and decision-making bottlenecks. • Less flexibility to address localised needs and priorities. • Requires significant buy-in and resourcing at a regional level. • May be perceived as limiting local authority control.
Option 3: Individual Councils / Territorial Authorities to lead.	• Allows each Territorial Authority to tailor approaches to local needs. • More direct engagement with local communities. • Potentially faster decision-making at a local level.	• Risk of inconsistent or conflicting approaches. • Less efficiencies from regional collaboration. • Smaller councils may not have resource to act in time or at the scale to meet regional needs. • Harder to attract large-scale private investment or government support.
Option 4: Regionally Coordinated, and Locally Led Approach	• Balances regional consistency with local flexibility. • Encourages collaboration and shared learning. • Strengthens collective bargaining power while maintaining local autonomy. • Ensures all areas are included without imposing a one-size-fits-all solution.	• Requires effective coordination mechanisms to avoid duplication or misalignment. • Striking the right balance between regional oversight and local leadership can be complex. • May still face resourcing constraints at both local and regional levels.

33. **Officers' preferred option**: Option 4 - Regionally Coordinated, and Locally Led

34. This approach provides the best balance between regional alignment and local flexibility. It ensures a coordinated strategy while allowing councils to tailor responses to local conditions. It will ensure efficiencies in work across multiple authorities and facilitate shared learnings.

35. Key Success Factors:

    a. Clear Regional Strategy – A shared vision and objectives to ensure alignment.

    b. Effective Coordination – A lightweight but effective regional mechanism (e.g., a working group or steering group from councils and iwi).

        i Local Leadership & Flexibility – Councils take the lead on delivery, ensuring solutions meet community needs.

        ii Resourcing Support – Some level of regional assistance to help smaller councils with expertise or funding access.

    c. Economies of Scale and Timing – Where consultancy advice is required, a centrally coordinated approach will improve efficiency and coordinated timing of delivery.

36. The WRLC Priority Development Areas (PDAs) provide a template for how this can be managed, with individual councils managing projects, while the WRLC Secretariat provides monitoring, reporting, problem-solving coordination, regional oversight and brings in central Government where needed.

37. If this option is selected:

    a. The WRLC Secretariat, alongside the Project Sponsor, will develop the structure, terms of reference, and other programme materials.

    b. Members of the WRLC Senior Staff Group will help ensure the programme is practical and fit for purpose, while also ensuring the local response is appropriately resourced.

38. Council staff will continue leading development of industrial land opportunities and economic development in their own local areas.

39. If additional funding is required, the WRLC Secretariat will manage this within the existing WRLC project budget by reprioritising other projects, in consultation with the WRLC Senior Staff Group.

Ngā hua ahumoni
Financial implications

40. There are no direct funding implications from this report; however, there may be funding implications from the activities outlined above.

Ngā Take e hāngai ana te iwi Māori
Implications for Māori

41. Industrial land development could affect Māori land, cultural sites, and areas of significance. It's important to ensure Māori perspectives are included in planning decisions.
42. There are opportunities for Māori businesses, landowners and iwi organisations to be involved in industrial land development and investment, creating economic benefits for Māori.
43. Iwi Participation in Decision-Making:
    a Iwi will be engaged through the project to ensure Māori perspectives are reflected in regional planning and decision-making.
    b Territorial Authorities will involve Iwi in local industrial land projects so Māori interests, values, and aspirations are considered.

Te huritao ki te huringa o te āhuarangi
Consideration of climate change

44. The Industrial Land Study looked at climate change risks like sea-level rise, flooding, and extreme weather to ensure long-term viability.
45. Industrial growth needs to be balanced with sustainability by encouraging low-emission industries, green infrastructure, and smart land use.
46. Integration with Regional Planning:
    a Climate resilience will be factored into site selection and planning to avoid high-risk areas and reduce future adaptation costs.
    b Territorial Authorities will be encouraged to include climate change considerations in their local industrial land planning to support regional sustainability goals.

Ngā tikanga whakatau
Decision-making process

47. The matters requiring decision in this report were considered by officers against the decision-making requirements of the Local Government Act 2002.

Te hiranga
Significance

48. Officers considered the significance (as defined in Part 6 of the Local Government Act 2002) of the matters for decision, considering *Greater Wellington Regional Council's Significance and Engagement Policy* and *Greater Wellington's Decision-making Guidelines*. Officers recommend that the matters are of low significance given their administrative nature.

Te whakatūtakitaki
Engagement

49. The Study involved extensive stakeholder engagement.
50. Stakeholders included businesses, government agencies, Territorial Authorities, and Iwi.

Ngā tūāoma e whai ake nei
Next steps

51. The WRLC Secretariat will develop and propose a structure and terms of reference for the Regionally Coordinated, Locally Led approach to industrial land.
52. The Project Sponsor and members of the WRLC Senior Staff Group will be involved to ensure the proposals are practical and workable.
53. Engagement with councils and iwi will be undertaken to test and refine the approach.
54. A plan to assess resource and funding requirements will be developed. A proposed timeline for implementation will be outlined, with clear milestones for decision-making and next steps.

Ngā āpitihanga
Attachment

Number	Title
1	Industrial Land Study Executive Summary Feb 2025

Ngā kaiwaitohu
Signatories

Writer	Allen Yip – Programme Manager WRLC
Approvers	Jaine Lovell-Gadd – Head of Secretariat WRLC David McCorkindale – Group Manager Community Vision and Delivery - Horowhenua District Council

He whakarāpopoto i ngā huritaonga Summary of considerations
Fit with Council's roles or with Committee's terms of reference The WRLC TOR includes regional spatial planning. Industrial land contributes to economic resilience, are a key requirement to support growth in the region.
Contribution to Annual Plan / Long Term Plan / Other key strategies and policies This contributes to the Future Development Strategy requirements.
Internal consultation No internal consultation through the WRLC has been undertaken on this matter to date.
Risks and impacts - legal / health and safety etc. There are no known risks related to this paper.

Wairarapa-Wellington-Horowhenua

Industrial Land Study – Summary Report

February 2025

Wellington Regional Leadership Committee

The Property Group

Attachment 1 to Report 25.45

Wairarapa-Wellington-Horowhenua Industrial Land Study – Summary Report

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Wairarapa-Wellington-Horowhenua Industrial Land Study – Summary Report

Quality control

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Ref	719412
Date	25 February 2025
Prepared by	Ruth Allen, Principal Urban Regeneration
Reviewed by	Kris Connell, Jaine Lovell-Gadd and David McCorkindale

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Revision	Date	Details	Authorised	
			Name/Position	**Signature**
01	25 February 2025	First draft for feedback	Ruth Allen Principal Urban Regeneration	
02	28 February 2025	Final	Ruth Allen Principal Urban Regeneration	

Cover photo: Seaview Industrial Park, Lower Hutt. Taken from Wainuiomata look out

1. Introduction

The Wairarapa-Wellington-Horowhenua Region (the region) makes a significant contribution to the New Zealand economy. This is in the most part through employment in the government, professional services and administration sectors but also through the region's industrial sector which services both the local area and national and international markets.

Currently, a total of 1,705 ha of land is zoned for industrial land use across the region (including areas zoned Heavy, General and Light Industry), with an additional 90 ha of land within a future urban zone that has been identified specifically for industrial land use. This existing industrial land is spread across the region, concentrated along the state highway network and within proximity to key transport nodes, including CentrePort. The largest area of industrial zoned land in the region is located at Seaview in Lower Hutt (300ha), followed by the Waingawa Industrial Estate (196 ha) in Carterton and the light industrial land in Porirua City east of the commercial centre.

In September 2023 the Housing and Business Development Capacity Assessment (HBA) undertaken for the region found that while the region has sufficient capacity to meet business land demand generally, demand for industrial land, and in particular the availability of vacant large industrial lots, is expected to have a shortfall.

2. Scope of the industrial land study

The Wellington Regional Leadership Committee commissioned the Industrial Land Study (the study) to better understand the anticipated shortfall in industrial land at a regional level and to identify potential options and interventions for accommodating future industrial growth.

For the purposes of the study, the definition of industrial activity provided in the National Planning Standards has been used which defines an 'industrial activity' as *"an activity that manufactures, fabricates, processes, packages, distributes, repairs, stores, or disposes of materials (including raw, processed, or partly processed materials) or goods. It includes any ancillary activity to the industrial activity"* (Ministry for the Environment, 2019).

Based on the findings of the HBA, the scope of the study has focused on those industrial land uses which require large sites to carry out their operation across the different sectors of industrial activities, including:

- heavy manufacturing and processing, including aggregate, metal, wood and chemical processing
- light to medium manufacturing of consumer goods and equipment including for the textiles, transport, construction, and engineering sectors
- food and agricultural processing industries including meat, fish and dairy processing
- freight and logistics land uses, including storage, warehousing, transport and postal services

- high-value manufacturing in the science and technology sector
- warehousing, studios and workshops associated with the film industry.

The purpose of the study is to support decisions regarding the future supply of industrial land and necessary infrastructure investment and to feed into the refresh of the regional Future Development Strategy. It is important to note that this study has been undertaken with a broad regional focus. As a next step, more detailed local-level analysis is needed to address industrial land challenges, alongside further regional-level work to ensure a coordinated approach.

To guide the development of this study an industry working group was established with representatives from stakeholders across the region including CentrePort, NZ Transport Agency Waka Kotahi, business representative groups (Hutt Valley Chamber of Commerce, WellingtonNZ, The Horowhenua Company and Wellington Chamber of Commerce) and representatives from some Councils located within the region. The study included the following research stages:

- **Desktop research and spatial analysis** - Research into trends in industrial land supply and demand across the region, including spatial analysis of current vacancy rates and resilience challenges across the existing industrial land.
- **Industry, stakeholder, and partner engagement** - Engagement with businesses and key stakeholders currently working across a range of industrial land uses/sectors and locations in the region was carried out during March 2024 to understand the scale and types of industrial land needed. To achieve sufficient coverage of engagement across the different sectors of industrial land users and locations in the region, three different methods of engagement were used including: workshops, interviews and an online survey. Given the broad nature of this study, preliminary conversations were held with iwi partners to introduce its purpose. While deep engagement was not anticipated at this stage, a key recommendation is to ensure iwi continue to be engaged and are actively involved in the future work.
- **Review of potential areas for growth** – To understand where there may be opportunities to support industrial growth a desktop review of potential sites was undertaken. This involved the development of mapping criteria informed by stakeholder engagement and industry research and an assessment of potential areas identified against a set of criteria to assess whether they should be further investigated.

The following sections of this report provide a summary of the findings of the study with the more detailed analysis available within the full Industrial Land Study Report, dated February 2026 and the Stakeholder Engagement Report, dated May 2024.

3. Understanding the shortfall in industrial land supply

The 2023 HBA identified that the region will require up to 698 ha of additional industrial land into the future across the following timeframes:

- Short term (2025) – 56 ha

- Medium term (2026-2031) – 159 ha
- Long term (2031-2051) – 483 ha

Whilst the HBA also demonstrated that across the region there is over 6,000 ha of zoned land that has the potential to support business growth, it noted that the demand for industrial land is not anticipated to be met by this existing capacity as industrial land users typically require larger sites which may not be present in this supply.

Current levels of vacancy

In order to confirm this shortfall in current supply of land able to provide large industrial sites, a review of the current vacancy and turnover rates within existing industrial zoned areas (which is most likely to be able to accommodate large sites that are suitable) was undertaken in this study.

The results of this analysis demonstrated that whilst there is some vacancy across the region's industrial zones it is typically small lots less than 1ha in size. This is consistent with the findings of the 2023 HBA that in the most part the current supply of business land development capacity does not meet the needs of industrial land users for large vacant sites appropriately located (zoned) for industrial land use.

The resilience of existing industrial land

In addition, utilising the resilience mapping undertaken as part of the Future Development Strategy (FDS) a review of the resilience of existing industrial land was also undertaken. This analysis demonstrated that a significant amount of our existing industrial land is subject to some degree of risk from both natural hazards and extreme weather events. For example, Seaview, one of the region's largest and well-established industrial areas is identified as being at risk from flooding events, coastal hazards and liquefaction. This will require further investigation to understand the probability of these events and whether risks can be appropriately managed or mitigated through investment and/or plan provisions.

4. Feedback from the industrial business sector

The engagement undertaken across the industrial business sector also confirms the desktop analysis of a shortfall of large industrial sites and resilience challenges across our existing business areas. Feedback received indicates that this is an issue facing the sector in the immediate to short term, with examples of some businesses already relocating out of the region. The key themes from the engagement are summarised below:

- **Businesses are experiencing a current shortfall of large accessible industrial sites across the region.** Industry representatives confirmed the HBA findings that some districts within the region, in particular Wellington, Lower Hutt and Porirua, are short of large vacant industrial sites. It was noted that this was prompting some industries to relocate. Horowhenua was identified by many as a potential location for future industrial land due to the perceived availability of flat sites, affordability (for businesses and their workforce) and recent roading upgrades. The Wairarapa was identified as a potential

location for food processing and manufacturing businesses, however access via the Remutaka Hill is seen as a constraint by many.

- **The affordability and ownership of industrial land in the region is creating challenges for businesses to develop new or expanded industrial operations.** Across all industrial land use sectors interviewed, industry representatives noted that the development of new or expanded operations in Wellington, Porirua, Kapiti and Lower Hutt was seen as expensive and often cost prohibitive. This was attributed mostly to increasing land values in these areas and current high costs of construction. Other rising costs were discussed, including development contributions and costs of building required infrastructure connections. The cost of land was seen as a key factor influencing where industry can or chooses to locate. However, industry representatives noted that this decision was balanced against the need to be in close proximity to their workforce, transport networks, and customers.

- **There are increasing costs to industry associated with resilience risk.** The main concern raised by industry representatives when asked about the impact of climate risk was the associated increasing costs affecting the viability of their business. For example, the rising cost of insurance. Existing industrial land in Seaview and Petone, in particular, was viewed as having multiple resilience, planning and affordability issues relating to the threat of sea level rise and risks from natural disasters. Some businesses are opting to relocate to areas with lower risks. However, it was noted that full relocation is not always an option for businesses who have invested in their sites and have an existing network of suppliers and customers. Currently, securing a more resilient site was considered by those businesses who were needing more space to expand, rather than being the main reason to relocate.

- **Relocation is an option be considered by businesses in the region.** Many of the businesses surveyed (53%) identified they would have additional land requirements into the future. The majority of those that needed more space in the future (72%) said they would consider relocating elsewhere to expand their current operations.

- **Affordable housing for the workforce is a location factor for industry.** The success of the region's industrial sector is linked to the availability of affordable housing and transport solutions for their workforce. Housing affordability impacts where the workforce is able to live in proximity to industry and the availability and cost of transport options, including public transport, is critical for attracting staff. These cost-of-living pressures are putting pressure on industry wage expectations and further impacting the financial sustainability of industrial land uses to operate in the region.

- **Safeguarding industrial land from encroachment by other activities and future reverse sensitivity issues is needed.** Industry representatives have observed that existing industrial land has suffered from encroachment from other activities like retail, commercial and residential land uses over time. Many businesses report they are increasingly dealing with complaints from neighbouring uses as urban development around industrial land intensifies. This is especially noticeable for heavy manufacturing and freight logistics businesses. Industry representatives recommend that future

industrial land needs to be safeguarded to allow for industry to grow and adapt to market demands, noting that the scale and impact of industrial businesses is constantly changing.

5. Potential investigation areas for industrial growth

Based on feedback received through industry engagement and a review of site requirements across the different sectors of industrial land uses, a set of mapping criteria was developed to identify areas that could potentially support industrial growth across the region. This was informed through the mapping that was undertaken as part of the FDS to identify land within those areas already identified as potentially suitable for urban development. The areas were then assessed against a set of assessment criteria (based on the criteria used in the 2023 and 2021 HBA to assess the suitability of business land and refined through stakeholder engagement) to determine which areas should be investigated further.

The mapping exercise identified limited opportunities within the central areas of Wellington, Porirua and Lower Hutt. The majority of land showing some potential was located in the Wairarapa and further north in Kapiti and the Horowhenua Districts.

In total 15 potential investigation areas were identified which were further refined to 6 potential areas for further investigation The areas recommended for further investigation are shown on the following map and the assessment of each area against the assessment criteria is shown in Table 1.

This assessment is based on a desktop analysis conducted at a specific point in time to identify potential areas for further investigation for industrial land use. It is important to acknowledge that site characteristics, such as land ownership or current use, may change over time. As such, further detailed analysis at the local level will be necessary to assess the suitability of individual areas for further investigation.

In addition, this process did not include identifying additional space for light industrial land uses in the region's existing centres or mixed use areas. This has been included as a recommendation for further work alongside progressing the identified investigation areas identified.

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Wairarapa-Wellington-Horowhenua Industrial Land Study – Summary Report

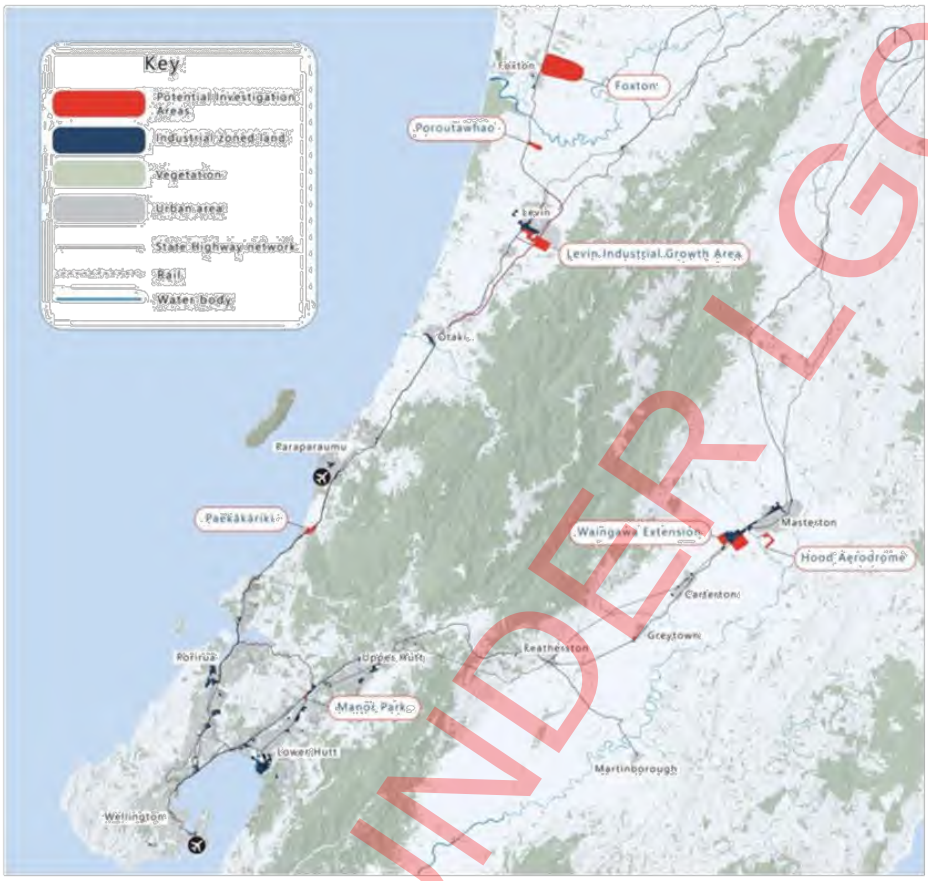

FIGURE1: AREAS IDENTIFIED FOR FURTHER INVESTIGATION

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TABLE 1 EVALUATION RESULTS

Criteria	Area 1 Horokiwi	Area 2 Ohariu	Area 3 Judgeford	Area 4 Pauatahanui	Area 5 Takapu Rd	Area 6 Paekākāriki	Area 7 Te Horo	Area 8 Otaki	Area 9 Levin	Area 10 Poroutawhao	Area 11 Foxton	Area 12 Manor Park	Area 13 Whitemans Valley	Area 14 Waingawa	Area 15 Hood Aerodrome
a) Proximity to major roading corridors	3	2	3	3	2	5	5	4	5	5	5	5	2	4	4
b) Access to rail routes	2	2	2	2	2	4	3	4	3	3	3	4	2	4	4
c) Access to airport	2	2	2	2	2	3	3	3	4	4	4	2	3	2	2
d) Access to port	3	2	3	3	2	4	4	4	4	4	4	2	3	3	3
e) Land cost and landownership risk	3	2	3	2	3	4	3	4	3	3	3	5	2	4	5
f) Proximity to supporting business/services	3	2	3	2	2	3	3	4	3	3	3	4	2	4	4
g) Resilience to hazards	3	3	2	3	3	3	1	1	3	3	4	2	3	5	5
h) Developability and infrastructure investment	3	2	3	3	2	2	2	3	3	3	2	3	3	3	3
i) Proximity to worker accommodation	3	3	3	2	2	5	2	4	4	4	2	4	3	4	4
j) Proximity to public transport	2	1	3	2	1	5	1	3	1	1	2	5	1	2	2
k) Separation from more sensitive activities	2	2	4	2	3	3	3	3	3	3	4	2	2	5	4
Total scoring	29	23	31	26	24	41	30	31	36	36	36	38	26	40	40
Approx land area (ha)	30	60	80	90	10	69	2,000	60	50	50	1,200	17	380	300+	95

Note: this assessment was undertaken at a point in time to support an understanding of areas that could potentially be further investigated for industrial land use. It is acknowledged that some of the site characteristics (such as land ownership or use) can potentially change over time and therefore further detailed analysis at the local level would be required to assess any one areas suitability for further investigation. Refer to Table 2 for a summary of areas identified for further investigation. The definition of the assessment criteria and scoring range applied is provided in Section 5 of the main Industrial Land Study report dated February 2025.

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TABLE 2 SUMMARY OF AREAS IDENTIFIED FOR FURTHER INVESTIGATION

Investigation areas recommended	Key considerations
Area 6 - Paekākāriki	This land presents an opportunity for industrial land use or an area of mixed use located in a highly accessible location with good access and visibility from the state highway network. The assessment has identified that this area has potential to meet the needs of most industrial sectors. However, further investigation is required to ensure that the ground conditions can accommodate industrial land uses, that stormwater can be managed, and it can be adequately serviced for wastewater. Notably, this area is government owned, and The New Zealand Transport Authority Waka Kotahi (NZTA) is currently considering its requirements under the Public Works Act 1981, which presents a unique opportunity to provide development potential that has limited fragmented ownership. Kapiti Coast District Council have advised that a range of other future land uses are being considered for this area, including residential development. Further engagement with NZTA, iwi and Council is required as a first step to pursue this as an investigation area for industrial land use.
Area 14 – Waingawa Extension	There are considerable opportunities identified for industrial land development within the areas surrounding the existing Waingawa Industrial Estate. Whilst a nominal investigation area has been identified as part of this study (to include areas closest to the state highway and land owned by Centre Point) further work should be undertaken to confirm the boundary. It is noted that there is already land zoned General Industrial in Waingawa that has not been developed. This is in part due to the need for infrastructure servicing to progress development on this land but also potentially due to locational preferences from industry. Where additional land is to be zoned in Waingawa to meet the needs generated more broadly from the region, consideration will be required as to the mechanisms for supporting infrastructure provision to this area and the consideration of infrastructure upgrades needed to improve connectivity of the area to other industrial transport nodes such as Centre Port and the distribution hubs across the region (e.g. improvements to rail network).

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Area 15 – Hood Aerodrome	The Masterton District Council owned land identified around the Hood Aerodrome presents an opportunity to create an area of industrial land with good connectivity to transportation infrastructure. It is recommended that this area is investigated further to determine how it could be re-zoned to attract industry to this location.
Area 12 – Manor Park	The Manor Park investigation area is already identified as industrial land in the Draft Lower Hutt District Plan and this assessment has confirmed that this area presents an opportunity to support the wider industrial land needs of the region. It is recommended that this area is further reviewed for inclusion as a growth area in the review of the FDS following completion of the District Plan review process. *Note: since this assessment was undertaken, the proposed rezoning of this site through the District Plan review has not proceeded.*
Area 9 - Levin industrial growth area	The land identified in south Levin presents an opportunity for industrial growth to be provided for in an area that will benefit from investment in planned upgrades to the state highway network (Otaki to North Levin project). The proximity to workforce accommodation and amenities provided at Levin also means it is well positioned to support most industrial sectors. This site meets the characteristics of a new industrial park including sufficient size to provide buffer requirements and a range of site sizes. Further work would be required to address infrastructure servicing to this area and establishing how this site could support the development of the proposed KiwiRail Freight Hub in Palmerston North, to become a key part of the supply chain.
Area 10 – Poroutawhao	The land identified north of Levin requires further investigation to determine where and how much of this area could support industrial land use and what infrastructure servicing would be required. Another consideration is its proximity to Palmerston North and ensuring it does not detract from the investment in the proposed KiwiRail Freight Hub.
Area 11 – Foxton	The land identified in Foxton requires further investigation to determine where and how much of this area could support industrial land use and what infrastructure would be required. Another consideration is its proximity to Palmerston North and ensuring it does not detract from the investment in the proposed freight hub.

6. Recommendations and next steps

The work undertaken to complete this study has confirmed there is a need to identify and safeguard additional land within the region to support our industrial growth needs both in the immediate/short term and the longer term.

Engagement with industry has confirmed that a range of affordable sites are required across the region to support the needs of industry and the planning for these areas needs to be integrated regionally with the planning for infrastructure investment, housing supply and approaches to climate adaptation.

The process of reviewing potential areas for large industrial sites has demonstrated that there are challenges in locating areas within the region that are development ready and available for industrial land use. Investment is required to ensure we have enough capacity for the current and future needs of this sector. Geographical constraints, coupled with the need to safeguard land for housing and the food producing industries (highly productive soils) mean that available land in resilient locations all require investment in infrastructure to come on stream (development ready).

To address the anticipated shortfall in supply both in the immediate/short and long term, a range of measures are required to support industrial land uses to stay and locate in the region.

The following section outlines the key recommendations that have been identified to support planning for industrial land needs and the next steps following completion of this study.

Recommendations

Recommendation 1: Continuing to take a regionally co-ordinated approach to planning for industrial land supply

This study has demonstrated that to address the shortfall of industrial land a continuation of regionally co-ordinated approach is required. There are some areas within the region with high demand and limited capacity for industrial growth. Wellington City and Lower Hutt in particular have low vacancy rates within existing industrial areas and limited capacity identified for industrial growth. High demand for industrial land in these areas is generated by proximity to the existing customer base and other industrial operators and the proximity to housing for the workforce and key transport nodes, including CentrePort and freight rail facilities at Wellington Railway Station.

A regional approach is required to look at how this demand for industrial land can be supplied in other areas which have more potential for growth (such as Horowhenua and the Wairarapa) while continuing to support the needs of the sector. This will be reliant on the investment in the required infrastructure to ensure our industrial areas are well connected across the region.

Recommendation 2: Industrial land development integration with infrastructure planning

Engagement with industrial businesses has also demonstrated that to support the success of industry in the region, new industrial areas require good connectivity to the state highway network and key freight networks as well as forward planning for future three waters and fuel and electricity supply.

New proposed road connections (such as the Petone to Grenada Link Road) present real opportunities to improve the connectivity of existing industrial areas and open up new potential areas. In light of the shortfall of available industrial land and the importance of this sector for our economy, the realisation of new opportunities for growth in industrial land should form a key part of options analysis for new infrastructure connections.

Recommendation 3: Work with, and promote opportunities to the private sector (developers and businesses) to ensure planning for new industrial land meets the needs of industry

At a regional level we now have a good understanding of the characteristics of current industrial land and the investigation sites for new industrial land and as we progress the next steps in this report, we will have a good idea of when new industrial land will become available. Whilst increasing supply of industrial land is important, there is a need to ensure that what industrial land is currently available and what industrial land will be available in the future is promoted to both retain current industrial businesses (so they don't leave when they need more space) and to attract new industrial businesses to the region.

Recommendation 4: Safeguarding our existing industrial land

The engagement with industrial businesses also highlighted that current operators are continuing to face challenges from encroachment of other urban uses into industrial areas (such as residential). This is impacting the availability of land for industrial development but also creates operational issues associated with reverse sensitivity from adjoining land uses and along key transport connections. Alongside identifying areas of industrial growth there is a need to ensure that our existing industrial areas have the right planning framework in place to allow for the on-going efficient operation of industrial activities. Changes have already been made across district plans to reduce the encroachment of other urban development within the Industrial Zone (for example Lower Hutt) however there is a need to ensure that this is done at a regional scale and also for land adjoining key freight networks.

Recommendation 5: Adaptation planning for industrial land

A review of the potential resilience risks across our existing industrial land has demonstrated that approaches to regional adaptation planning need to incorporate consideration of how we can reduce the impact of these on our industrial sector.

Understanding the risks and impacts of existing industrial land can be incorporated into the Regional Adaptation Project being undertaken by the WRLC.

Next steps/actions

This study has identified a range of areas (investigation areas) within the region that have potential opportunities for industrial growth. The following next steps are recommended to progress this work:

TABLE 3 RECOMMENDED NEXT STEPS

Actions		Owner/timeframe considerations
Take an approach to planning for industrial land supply that is regionally coordinated and locally led		
Establish a co-ordination structure for progressing the planning of industrial land supply across the region.	To promote a regional approach to the planning for future industrial land needs and to realise any potential fast-tracking opportunities it is recommended a co-ordination structure is established to progress the next steps of this study, such as the establishment of an Industrial Land Steering Group (ILSG). The ILSG would be responsible for overseeing the work programme as outlined below and reporting back to WRLC. Consideration to be given to the timing and level of involvement of WRLC Iwi partners, Councils, Infrastructure providers (including NZTA, KiwiRail, CentrePort and Transpower), Wellington NZ and the private sector in the process moving forward.	WRLC Short term 2025-2027
Further constraints and capacity analysis	For areas identified for further investigation, it is recommended that local-level work is carried out to assess their capacity for industrial growth. This should include a detailed evaluation of site constraints and opportunities to help refine the investigation area boundaries. This assessment aims to build on the initial evaluation by identifying opportunities at a regional scale. The goal is to incorporate	ILSG Short term 2025-2027

	investigation areas into the FDS, allowing for further exploration through the rezoning process. The further analysis should include: • Consideration of the feedback received through further engagement with iwi and other stakeholders. • Detailed site investigations, including high-level geotechnical, stormwater, and traffic impact assessments, as well as identification of any sensitive landscapes. • Identification of required infrastructure investments to address capacity constraints and improve connectivity to urban areas and freight networks, with input from key service providers, including the energy sector. • Consideration of land ownership challenges, including strategies to reduce fragmentation and support industrial land affordability. • Assessment of the types of industrial land uses that could be suitable for these areas based on current and future market conditions. • Evaluation of growth capacity (density) and whether nearby housing opportunities can support workforce needs.	
Readiness and sequencing assessment	Across the range of opportunity areas identified for further investigation there is a scale of how fast each site could be considered for re-zoning and how ready it is for development. This includes whether the area is already identified in a growth strategy or	ILSG Short term 2025-2027

	spatial plan (such as the Levin site), whether infrastructure investment needed is already in the planning phase, and the level of support from Council. Further work is recommended in partnership with each Council to gauge their support and identify the steps and timeframes needed to bring each investigation area onstream. This process could highlight quick wins and help prioritise investment. It should also inform an analysis of how these areas can meet demand over the short, medium, and long term, ensuring proper sequencing and contributing to the next Regional Housing and Business Capacity Assessment. Additionally, this work will support future business cases and investment decisions for infrastructure development.	
Integrated into Future Development Strategy review	As part of the three year review of the FDS, it is recommended that the outcomes of the further assessment and the refined list of investigation areas be incorporated into the next FDS.	WRLC Medium term 2027-2030
Industrial land development integration with infrastructure planning		
Explore potential alternative pathways for fast tracking infrastructure investment and rezoning	Recommend a planning pathway for rezoning the identified potential growth areas. Given the industrial land shortfall, it is recommended to consider prioritising investment and fast-tracking the rezoning process. A key first step would be to hold a workshop with potential government partners to explore funding and planning options. This should include consideration of: • Potential funding and financing tools, including value capture methodologies and the use of regional deals.	ILSG Short term 2025-2027

	• Use of the Urban Development Act 2020 provisions to identify the potential for a Specified Development Project for industrial land. This may include combining several investigation areas into one project and any supporting area/land required to ensure efficiencies in the wider infrastructure investment can be identified and ensure the strong supply of networks and connectivity.	
Integration of the study and future phases into the future planning projects or workstreams	The need for security of energy supply and new infrastructure investment needed to support growth has been identified as a key consideration. It is recommended that the ILSG actively ensures that the needs of industry and the future growth areas are incorporated into any projects related to the region's energy capacity and resilience planning.	ILSG and WRLC Short term 2025-2027
Work with, and promote opportunities to the private sector (developers and businesses) to ensure planning for new industrial land meets the needs of industry		
Engagement with the private sector and investigation of partnership opportunities	Given the significant investment and scale required for redeveloping a new industrial business park, early engagement with developers and the private sector is essential. This should include discussions with large-scale business and industrial land developers to identify the planning frameworks and mechanisms that would drive investment in the region.	Wellington NZ and WRLC/Councils Short to medium term 2025-ongoing
Promote our industrial land opportunities at a regional level	To ensure the benefits of new infrastructure to support the readiness of new industrial land is realised and to support the business case process it is recommended that engagement with future tenants and businesses is undertaken alongside the planning process.	Wellington NZ and WRLC/Councils Short to medium term 2025-ongoing

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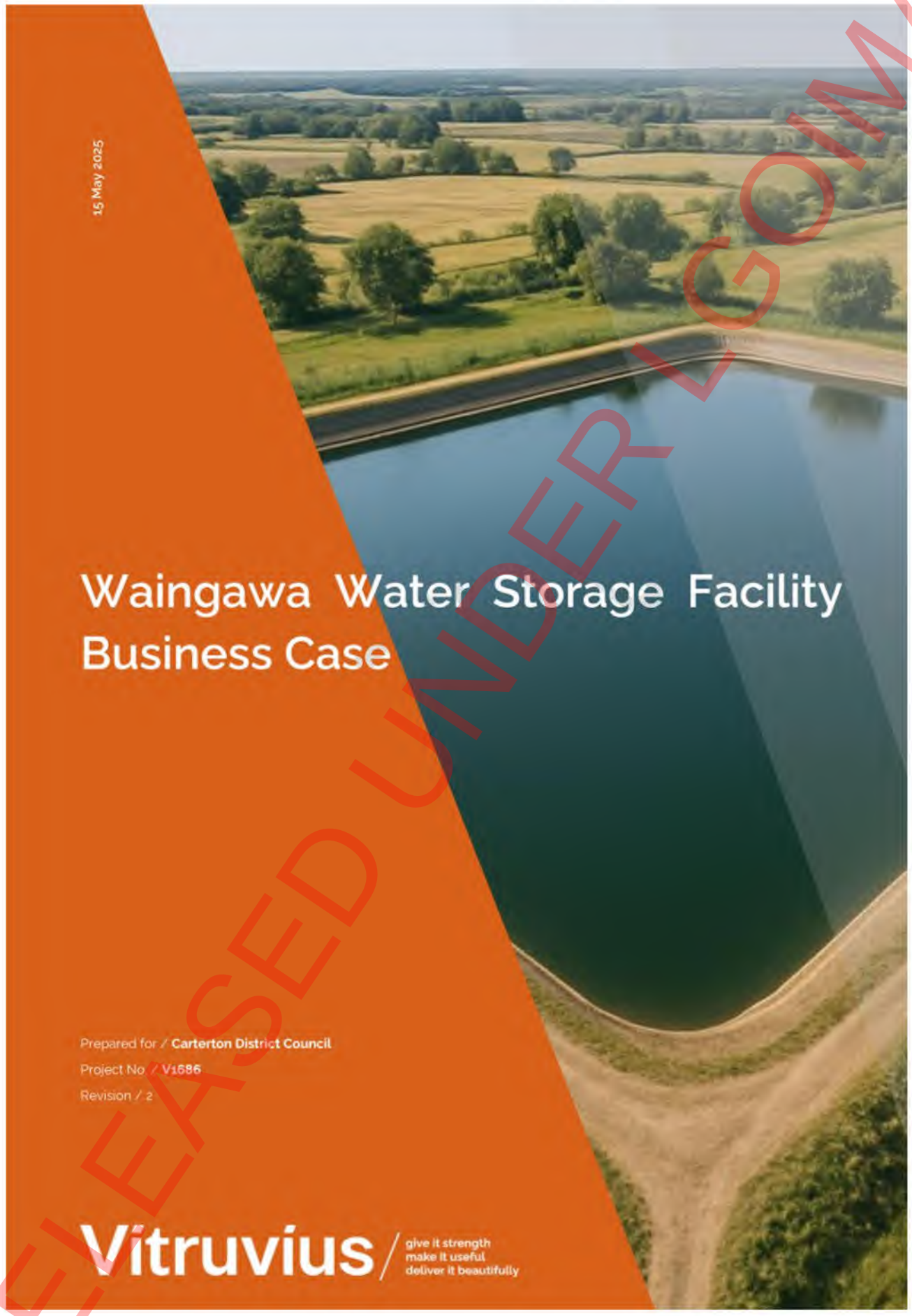
Adaptation planning for industrial land		
Integration of industrial land requirements in Adaptation Planning and approaches	It is recommended that the ILSG actively ensures that the needs of industry and the future growth areas are incorporated into the development of the Regional Adaptation Project currently underway.	ILSG and WRLC Short term 2025-2027
Safeguarding our existing industrial land		
Increasing the capacity of existing industrial activity and mixed use areas	Alongside the investigation of future growth, it is recommended that a review of existing industrial and mixed use zones provisions and areas is undertaken to determine the extent to which these areas could accommodate increased intensification of industrial land use. This should incorporate consideration of how to address reverse sensitivity issues.	Councils Short term 2025-2027

15 May 2025



Waingawa Water Storage Facility Business Case

Prepared for / **Carterton District Council**

Project No / V1686

Revision / 2

Vitruvius / give it strength make it useful deliver it beautifully

Document Control Record

Document prepared by:

VITRUVIUS LIMITED

Level 9, 187 Featherston Street,
Wellington, 6011

+64 (4) 595 4708
info@vitruvius.co.nz
www.vitruvius.co.nz

Revision History

Rev	Date	Implemented By	Purpose/Change
1	9/05/2025	Selwyn Blackmore	Draft for Client Review
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Sign Off

		Signature
Prepared By:	Vaughan Roberts Senior Advisor 15-May-2025	
Verified By:	Alana Bowmar Service Lead Civil and Water Engineering 15-May-2025	
Approved By:	Selwyn Blackmore Business Lead Wellington 15-May-2025	

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Executive Summary

This business case lite[2] (business case) has been prepared to support Carterton District Council's (CDC) funding application to the Regional Infrastructure Fund (RIF) for the Waingawa Water Storage Project (the project). While this is a 'lite' business case, its primary focus - at the request of CDC - is on analysing the economic and financial viability of the proposed options.

In early 2025, CDC began investigating the potential for a water storage scheme at 145 Norfolk Road, Waingawa. The site was seen as an opportunity to improve local water reliability - particularly for the partially developed Waingawa Industrial Park and for nearby irrigators.

The scheme's basic concept is to capture and store excess flows permitted under CDC's Taratahi Water Race resource consent during the winter, autumn, and spring months, and to use this stored water during the high-demand summer period.

The initial feasibility investigation was completed in late February 2025[3]. Among other findings, it recommended further analysis of the economic viability of a potential water storage scheme. In March 2025, with appropriate property access arrangements in place, CDC decided to proceed with this business case to assess the viability of such a scheme.

Following consideration of several storage options during the feasibility phase, CDC initially identified a preferred reservoir size of 270,000 m^3 to supply process water to the Waingawa Industrial Park and to local irrigators. However, for the purposes of this business case and based on a $25 million capital budget - CDC selected the following storage options for further investigation (for the same water supply purposes):

- Option A: 500,000 m^3
- Option B: 1,000,000 m^3

In addition, an "Option B Staged" approach was identified for investigation. This approach would begin with Option A (500,000 m^3) and then add the additional 500,000 m^3 (Option B) over time, if there is demand for more process water locally.

A comprehensive cost-benefit analysis (CBA) was completed for the options. It incorporated full capital, operational, and maintenance costs, and assessed benefits such as water sales to existing and future users in the Waingawa Industrial Park as well as to local irrigators. The analysis also accounted for the economic value of high-quality gravel expected to be extracted during reservoir construction in Year 1.

The CBA was developed using a set of key assumptions and scenarios, including:

- **For the Waingawa Industrial Park:** By offering process water at a competitive price of $1.25/$m^3$, the project is expected to help attract water-intensive industries to the currently undeveloped areas of the Waingawa Industrial Park over a 20-year period. This price is considered conservative, as it is significantly lower than CDC's listed rate of $2.25/$m^3$ and the Tararua District Council's rate of $1.57/$m^3$ for industrial users.
- **Irrigation scenarios:** Three scenarios were evaluated, with the *Dryland Dairy to Irrigated Dairy* scenario identified as the most applicable for the Taratahi Water Race Command Area. This scenario involved converting a portion of the catchment's 3,420 hectares of dryland dairy, specifically modelling a 150-hectare platform (e.g. 115 hectares irrigated and 35 hectares remaining as dryland). Under this scenario, operating profit was expected to increase by $1,980/ha (before water charges), rising from a baseline of $1,861/ha to $3,546/ha. With an

[2] It was agreed with CDC that this business case would be 'lite' due to funding constraints, and would be based on the NZ Transport Agency's Single Stage Business Case Lite format
[3] 145 Norfolk Road, Waingawa: Water Storage Options Report (Vitruvius, February 2025)

average additional capital investment of $6,480/ha (or $7,700/ha for the irrigated portion), this equated to a 26% return on investment before water costs. When accounting for an estimated annual irrigation water requirement of 3,910 m^3/ha and a water charge of $0.30/$m^3$, the additional operating profit decreased to $785/ha, resulting in a 12.1% return on the additional capital.

- **Gravel extraction:** The gravel extraction cost assessment incorporated per-cubic-metre estimates for extraction, on-site transport processing, and on-site storage. Revenue was projected using a conservative sale price of $43 per cubic metre, and profit was calculated by subtracting total costs from total revenue for each option. The analysis assumed a 70% gravel yield, consistent unit costs, and sufficient market demand to sell gravel as it is extracted, avoiding off-site storage. Profit from gravel sales is estimated to be $1,790,000 from Option A and $3,591,000 from Option B.

Sensitivity testing was undertaken for the CBA to evaluate the robustness of the economic evaluation findings for the Do-Nothing option as well as the three storage options. Net Present Values (NPVs) and Benefit-Cost Ratios (BCRs) were calculated (using a 4% discount rate as well as alternate discount rates, higher/lower capital costs, and reduced benefits). While the evaluation findings also identified potential benefits from land value uplift from irrigation, environmental improvements, and recreational benefits, these were not monetised due to uncertainty around their feasibility and uptake at this point in time.

The BCRs ranged from 1.4 to 2.1, with Option A (500,000m^3) delivering the highest ratio at 2.1. Even under the various sensitivity scenarios, all BCRs remained above 1, indicating economic viability. Payback periods for all options ranged from 18 to 24 years. Based on these findings, Option A was recommended as the preferred starting point, with the ability to expand the reservoir over time to 1,000,000 m^3 (Option B Staged). The final reservoir would use a high-density polyethylene (HDPE) liner, which is standard for this type of infrastructure.

Despite evidence of the project's long-term economic viability, this business case analysis highlights substantial upfront costs, which pose significant affordability challenges for both the project and CDC. Securing co-investment from the RIF will therefore be crucial to support further design and investigation work. RIF funding would ease the short-term financial burden associated with these early-stage activities, making it feasible to initiate the project. While long-term revenue streams from water sales and other sources are expected to ensure the project's financial sustainability, RIF support is essential to bridging the short-term affordability gap.

If funding is secured, the next step is the pre-implementation phase, scheduled to begin in June 2025, with consenting in July and construction starting in August. Key risks include potential delays in consenting (assumed to be non-notified), contractor availability, and the supply of the HDPE liner. Initial market engagement suggests contractor and liner availability risks are low, though it is recommended a consenting strategy be developed promptly to mitigate consenting uncertainty.

1 Introduction

This business case lite[4] (business case) has been prepared to support Carterton District Council's (CDC) funding application to the Regional Infrastructure Fund (RIF) for the Waingawa Water Storage Project (the project).

CDC is responsible for developing and maintaining a range of local assets and services for the Carterton District under the Local Government Act 2002. The district has a population of 10,107[5], and Stats NZ – Tatauranga Aotearoa predicts this will grow to 11,650 by 2048. As of 2023, 63% of the district's population was aged 15 years or older.

The purpose of this business case lite is to outline the strategic context of the project, assess the options considered, and evaluate the economic and financial performance of the preferred option, along with an overview of the commercial and management considerations. While this is a 'lite' business case, its primary focus - at the request of CDC - is on analysing the economic and financial viability of the proposed options.

1.1 BACKGROUND

The Wairarapa is experiencing increasing pressure on its freshwater resources due to the combined impacts of climate change, population growth, land use intensification, and ageing infrastructure. These pressures are particularly acute during the summer months (January to March), when water demand is highest, and water availability is lowest due to reduced rainfall and increased evapotranspiration.

Without intervention, projections indicate that by mid-century, the region will require at least 15% more water to maintain current activities, with this figure expected to rise to 30% by 2090[6]. At the same time, environmental regulations aimed at protecting low river flows and groundwater levels will place further constraints on water availability for abstraction.

The use of water storage is one strategic response to these challenges. This approach is aligned with the aims of the Wairarapa Water Resilience Strategy 2021 (the Strategy), which calls for an integrated, catchment-wide response to water scarcity, blending both supply and demand side initiatives to improve overall water resilience.

CDC began investigating water storage at 145 Norfolk Road, Waingawa (the Site) in early 2025, recognising its potential to improve the reliability of local water supply. Initial feasibility investigations were completed in late February 2025[7] and, among other findings, recommended further assessment of the economic viability of a possible storage scheme to provide water to the Waingawa Industrial Park and to local irrigators. In March 2025, CDC decided to proceed with this business case to test the scheme's economic viability.

1.1.1 Site Description

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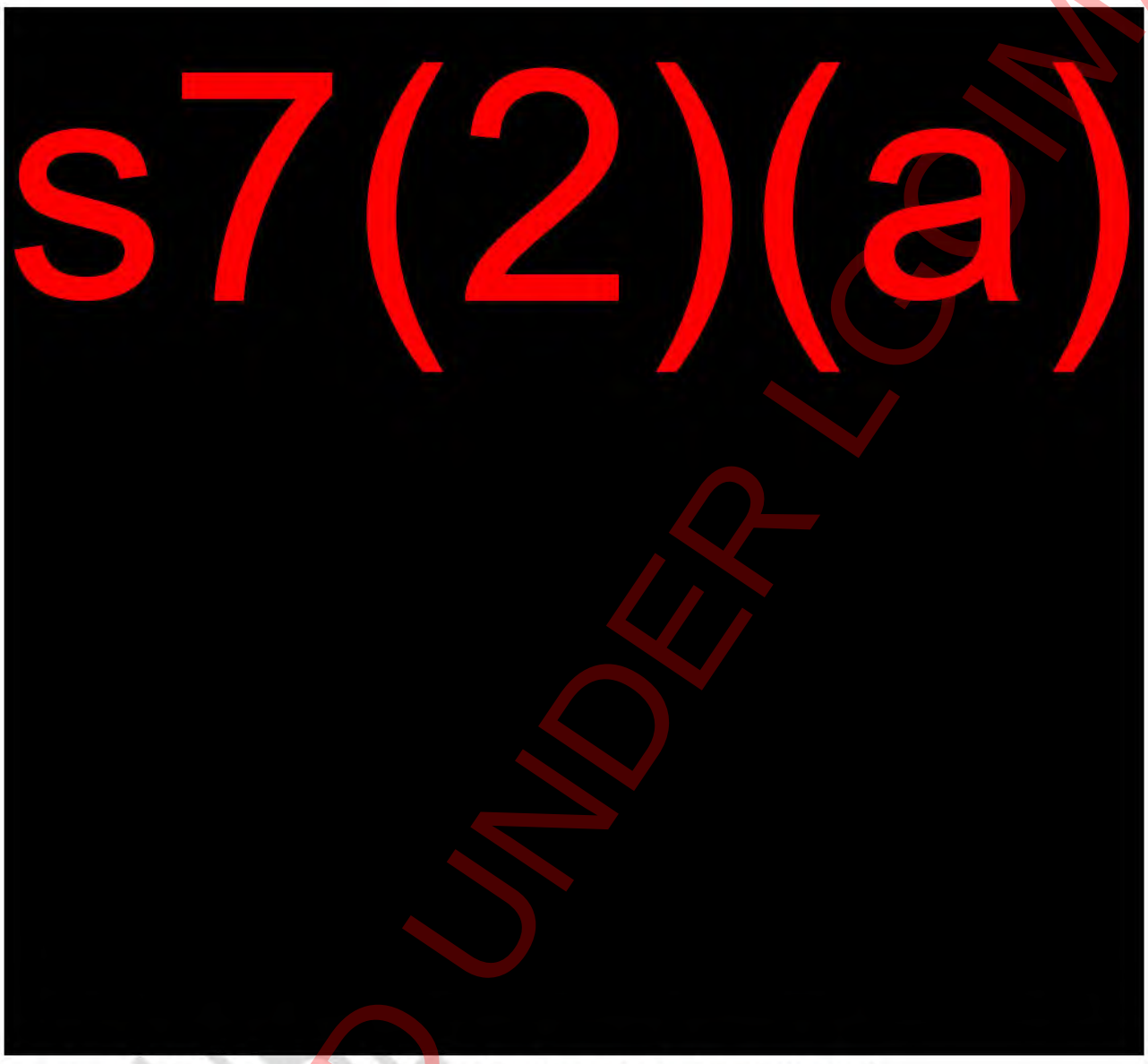
[4] It was agreed with CDC that this business case would be 'lite' due to funding constraints, and would be based on the NZ Transport Agency's Single Stage Business Case Lite format
[5] See: Aotearoa Data Explorer – Totals by topic for individuals (RC, TALB, UR, SA3, SA2, Ward, Health), 2013, 2018, and 2023 Censuses
[6] Wairarapa Water Resilience Strategy (Wairarapa Water Resilience Strategy Group, 2021)
[7] 145 Norfolk Road, Waingawa: Water Storage Options Report (Vitruvius, February 2025)



1.2 SUMMARY OF THE WAINGAWA WATER STORAGE FEASIBILITY STUDY

The primary objective of the Study was to assess the potential economic viability of developing water storage at the Site. Five options were considered, with three shortlisted for more detailed evaluation. The Study outlined the high-level benefits, costs, and risks of each option, and provided recommendations for next steps. The full report is included as **Appendix A** and is further discussed in the Economic Case. Overall, the Study concluded that water storage at the Site could be viable and contribute meaningfully to regional water resilience and productivity.

A fundamental factor supporting the selection of the Site was its secured land access and its close proximity to the Taratahi Water Race (shown as the green dotted lines in Figure 1:1Figure 1:1 The), which provides a potential source of water for storage during high-flow periods, as well as a distribution system to potential irrigation uses.

1.2.1 Taratahi Water Race

An arm of the Taratahi Water Race Scheme runs through the Site. According to Wellington Region LiDAR data (2013–2014), the water race enters the Site at its northern corner at an elevation of approximately 134 metres (mRL) and exits at the eastern corner at around 130 mRL. As shown in Figure 1:2 the scheme's command area spans the land generally to the east of Carterton, bounded by the Waingawa River to the northeast and the Ruamahanga River to the southwest.

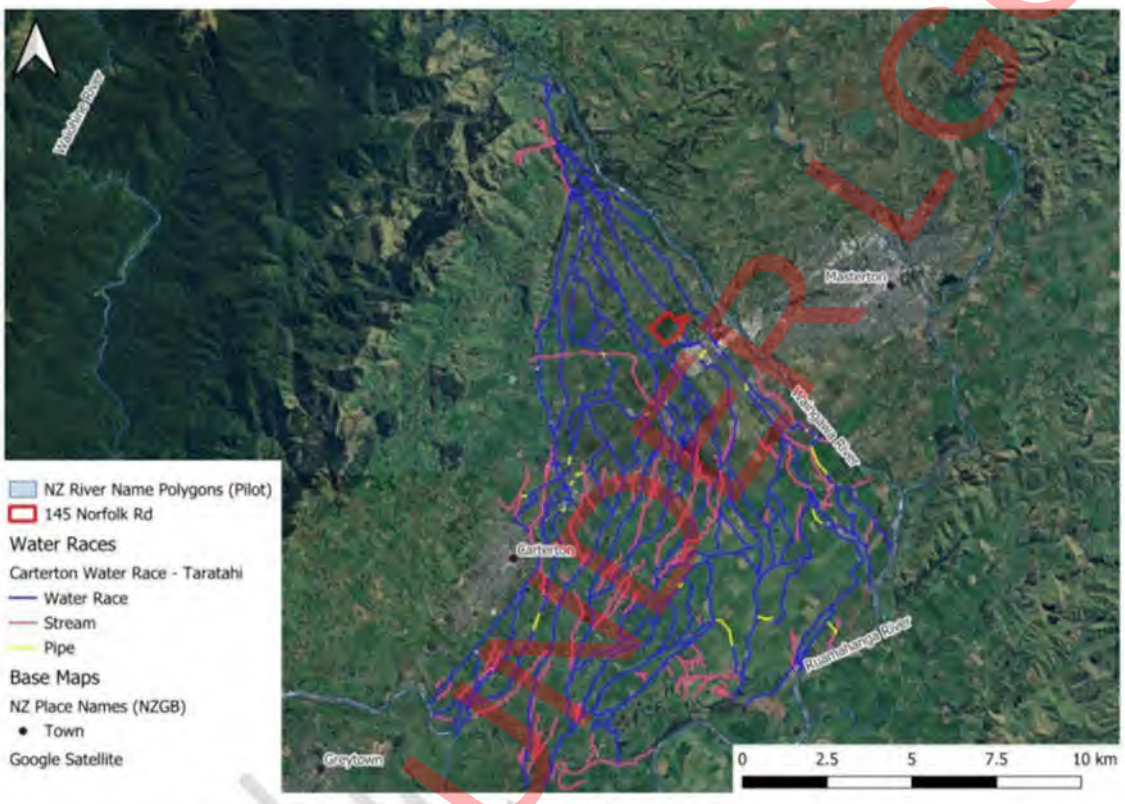


Figure 1:2 Taratahi Water Race's Command Area

The Taratahi Water Race consists of a network of earthen channels and some piped connections that rely on gravity to convey water abstracted from the Waingawa River. From the Site location (including adjacent races) this water is distributed across approximately 9,500 hectares of agricultural land, where it is used for stock water, frost protection, firefighting, and irrigation.

As outlined below, a critical success factor for the project is the use of water available under CDC's existing resource consent. This consent enables CDC to abstract water, manage the operation of the race system, and issue permits for stock water and other water uses. While the water races are owned by the landowners of the properties they traverse, their operation is funded through targeted rates paid by those landowners and is overseen by the Wairarapa Water Committee, which includes both property-owner representatives and CDC.

2 Strategic Case

A fit-for-purpose and "not reinventing the wheel" approach has been adopted in developing this business case lite. Accordingly, much of the strategic context supporting the need for water storage at the Site has been drawn from the Wairarapa Water Resilience Strategy 2021 (the Strategy), which effectively serves as a programme business case for this business case lite.

2.1 WAIRARAPA WATER RESILIENCE STRATEGY 2021

The Strategy outlines the key challenges, opportunities, and recommended actions for improving water resilience across the Wairarapa. Prepared in 2021 by the Wairarapa Water Resilience Strategy Group, the Strategy received formal support from Greater Wellington Regional Council (GWRC) in June 2022 for progressing its action plan[8]. This section of the business case provides a targeted summary of the Strategy's most relevant elements as they relate to the project; it is not intended as a comprehensive review.

The Strategy highlighted that freshwater is a fundamental resource for the Wairarapa but is increasingly at risk from climate change-related "shocks". These shocks were characterised through five key problem statements, which can be summarised as follows:

1. Increasing water deficit due to climate change.
2. Greater restrictions on water abstraction during low flows.
3. Increasing demand for water as population grows.
4. Loss of mauri.
5. Constrained local government budgets to invest in water resilience infrastructure.

The Strategy identifies several climate change impacts that will affect the Wairarapa, with some being particularly relevant to this project. These include:

- Currently, Masterton experiences an average of 31 hot days per year (defined as days over 25°C). However, this number is projected to increase to up to 52 hot days per year by 2040, and up to 101 hot days per year by 2090.
- Soils are generally projected to be drier in the Wairarapa plains, which may further impact pasture and crop growth and increase the need for irrigation.
- On average, 15% more water will be required by 2040 and 30% more by 2090 to maintain soil moisture levels assuming current land uses, due to rising temperatures and increasing potential evapotranspiration deficit.
- Drought conditions are projected to increase for all lowland parts of the region.
- River flows are likely to decline in the Wairarapa, with reduced flow reliability (i.e. the time during which river water takes are prohibited is projected to increase to maintain environmental flows).

The Strategy specifically highlights that climate change will exacerbate the water deficit issues experienced during the months of January to March.

The Strategy identified a series of high-level outcome statements, which can be summarised as follows:

- Make water resilience a community-wide concern and priority.
- Limit the worst climate change impacts to January–March, protecting the shoulder seasons.
- Capture and retain significant water from winter "freshes" and rainfall events.
- Slow water movement through the catchment and improve soil moisture retention.
- Maintain adequate river flows in the shoulder seasons to satisfy Te Mana o Te Wai requirements.
- Strategically protect nature-based assets (e.g. planting) from adverse climate effects.

[8] See: Wairarapa-Water-Resilience-Implementation-plan.pdf

The Strategy outlined two main categories of water resilience solutions: *Adaptive Solutions* and *More Available Water* (MAW) Solutions. Adaptive solutions focus on managing water demand by reducing, diversifying, or spreading it over time, while MAW solutions aim to increase the supply of usable water through methods such as capture, retention, storage, and efficient use.

Among the recommended solutions, water storage, such as this project, was identified as a viable option for ensuring reliable water availability, especially when reliability is critical. However, its feasibility depends on proving both economic and environmental viability. The Strategy also identified a set of principles to evaluate potential constructed water storage proposals, ensuring that they align with broader water resilience goals and can deliver long-term benefits for the region. The alignment of the preferred storage option with these broader goals and benefits is addressed in the economic case outlined in this report.

2.2 OTHER NATIONAL AND REGIONAL POLICY GUIDANCE

There are several key national, regional (in addition to the Strategy) and local policies / strategies that are relevant to development of this business case are set out in Table 2-1 Table 2-1:

Table 2-1: Relevant national, regional, and local policies / strategies

Type	Policy Name	Alignment Remarks
National	National Policy Statement for Freshwater Management 2020	This policy provides directives for managing freshwater resources, emphasising the protection of water bodies and ecosystems. It requires Regional Council's to set minimum environmental flows and limits, and corresponding water take limits to 'improve and maximise the efficient allocation of water' including economic and dynamic efficiency. Water storage supports maximising the efficient use of water, while maintaining minimum environmental flows.
Regional	Wellington Regional Freshwater Plan	Managed by the GWRC, this plan governs the sustainable management of freshwater resources in the Wellington region, including water allocation and use. There are several references to managing water sustainably, including encouraging efficient use of water and water conservation measures.
Local	Masterton District Council's Water Management	The council sources drinking water from the Waingawa River under a resource consent from the GWRC. Any new water storage projects must align with existing water management frameworks and consents.
	Carterton District Council's Infrastructure Strategy	This strategy outlines the provision of water services to support growth areas, including the Waingawa Industrial Park, and emphasizes the need for infrastructure planning to accommodate future development.

2.3 WAINGAWA WATER STORAGE PROBLEMS, BENEFITS, CRITICAL SUCCESS FACTORS AND INVESTMENT OBJECTIVES

2.3.1 Problems

The proposal to store water at 145 Norfolk Road has been identified as a key solution to address the growing water deficit issues highlighted in the Strategy. Specifically, for the Carterton District, the

project team identified one key problem statement that needed to be addressed by the project, which is as follows:

Problem Statement 1**: Inefficient use of water available in the Taratahi Water Race during winter, spring, and autumn - despite being allocated under CDC's resource consent - is leading to lost opportunities for water storage for resilience and limiting potential economic development. **(Weighting 100%)

Table 2-2: below sets out an estimated water balance for the Taratahi Water Race scheme in a 10-year annual recurrence interval (ARI) dry climate year. This shows that there is excess potential baseflow in the Taratahi Water Race, exceeding 4,200,000m³/yr, which goes unused.

Table 2-2: Excess Water Available under CDC's Resource Consent for the Taratahi Water Race

Month	Primary Inflow from Waingawa River (10-year ARI)	Water Losses	Stock Water Use[3]	Process Water Use	Excess Water /Baseflow
Units	*1,000 m³*	*1,000 m³*	*1,000 m³*	*1,000 m³*	*1,000 m³*
Jul	1,888	-850	-35	-559	445
Aug	1,883	-847	-35	-447	554
Sep	1,742	-784	-34	-432	492
Oct	1,911	-860	-35	-447	569
Nov	1,368	-616	-34	-432	286
Dec	1,550	-697	-35	-447	371
Jan	1,147	-516	-35	-447	149
Feb	1,002	-451	-32	-407	112
Mar	1,179	-531	-35	-447	167
Apr	1,243	-559	-34	-432	217
May	1,502	-676	-35	-447	344
Jun	1,769	-796	-34	-432	507
Total	**18,185**	**-8,183**	**-416**	**-5,374**	**4,212**

The primary inflows identified in Table 2-2: are based on maximising the CDC's authorised resource consent (WAR010227 V3A) with GWRC. This resource consent allows CDC to take water from the Waingawa River into the Taratahi Water Race Scheme. This consent has lapsed, as of 28/06/2023, and CDC is operating legally under section 124 of the Resource Management Act (RMA). CDC have applied for a new consent (WAR230259) - this is currently on hold for further information under section 92 of the RMA.

A key reason why the water is poorly used is that the excess water supply to the race occurs during the wet season (June to October), when the water take is less constrained as set out in Figure 2:1: Proposed site for the Waingawa Storage However, water demand from agriculture during the wet season is limited due to excess water from rainfall and low pasture/crop growth. It should be noted

that baseflow calculations are based on a series of high-level assumptions and may vary. But the seasonality of water availability will remain.

Figure 2:1: Proposed site for the Waingawa Storage facility

2.3.2 Benefits

Two key benefits from addressing the problem statement were also identified by the project team. These benefits, their weightings and supporting key performance indicators (KPI) are as follows:

- **Benefit 1 (Weighting 80 per cent): Improve Water Storage for the Summer Period**
  - Measure 1: Achieve a minimum of 500,000 m^3 of new water storage capacity by August 2026.
  - Measure 2: Increase the reliable volume of water available for use via the Taratahi Race Scheme by at least 2 times in summer, (December – February, inclusive) without increasing the authorised water take.
- **Benefit 2 (20 per cent): Increase local economic activity in the Carterton District**
  - Measure 1: At least 2 new or expanded agri-businesses or water-reliant industries established in Waingawa Industrial Park within the next 20 years.

2.3.3 Investment Objectives

Based on the benefit statements, and their associated KPIs, SMART[9] investment objectives for the project have identified:

- **Investment Objective 1 (50 per cent):** By 2026, establish storage infrastructure in the Waingawa area to capture and store excess process water available during winter, spring, and autumn under CDC's authorised water takes from the Taratahi Water Scheme.
- **Investment Objective 2 (50 per cent):** By 2026, establish water storage infrastructure in the Waingawa area, capable of supplying process water to local businesses, including farms, within the Taratahi Water Scheme Command Area.

2.3.4 Critical Success Factors

The following critical success factors (CSFs) were identified to help guide the evaluation of the options:

[9] SMART - Specific, Measurable, Achievable, Relevant and Timebound

- **Timely Delivery**: The solution must be able to be operational by 2026.
- **Regulatory Compliance**: The solution must comply with CDC's authorised water takes under the Taratahi Water Scheme.
- **Economic Feasibility**: The solution must demonstrate a viable cost-benefit ratio and be economically viable.

2.3.5 Summary of Problems, Benefits and Investment Objectives

Figure 2:2: sets out how the problems, benefits and investment objectives are linked.

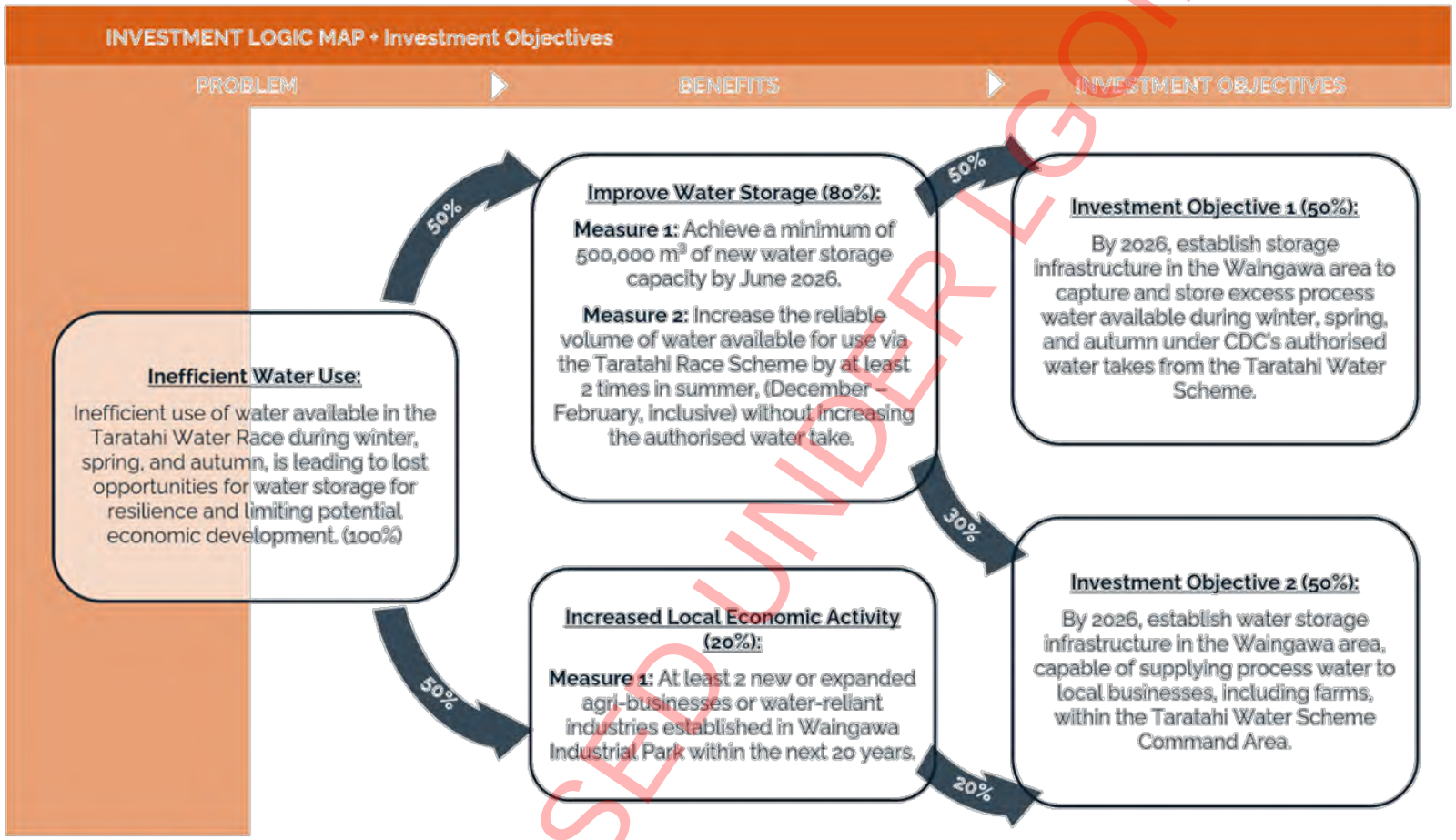


Figure 2.2: Problem, Benefits, and Investment Objectives

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2.4 OPPORTUNITIES, CONSTRAINTS, DEPENDENCIES, ASSUMPTIONS AND UNCERTAINTY LOG

This section summarises the opportunities, constraints, dependencies, assumptions and uncertainties for the project. It is important to note that risk and opportunity management will continue throughout the project lifecycle. Therefore, the matters listed below are for strategic context purposes and are not exhaustive. As the project progresses, these matters will be further refined, and management strategies and risk registers will be developed to address them.

2.4.1 Opportunities

The key opportunities identified by the project team are as follows:

- Available water in the Taratahi Water Race during winter, spring, and autumn could be used during drier months for industrial water supply, irrigation, and environmental improvement purposes.
- The Site is positioned near the Taratahi Water Race. This means that the site comes with a water source and supply system, and a distribution system to a large area of land.
- Due to the Site topography and location, the storage would function offline from any waterways with ecological value (including the Taratahi Water Race). This is expected to reduce resource consent requirements and simplify the overall consenting process for the project.
- The Site is near the Waingawa Industrial Park, with approximately half of the park developed and the other half yet to be developed. Access to large volumes of process water could serve as a catalyst for the development of the undeveloped portions of the park.
- Initial assessments suggest that environmental, watercourse, wetland, archaeological, or natural hazard constraints at the Site are unlikely if it is developed for water storage.
- The Site is underlain by alluvial gravels, which are quarried by neighbouring properties. Based on nearby quarries with similar materials, it is considered that the material on-site could be crushed and/or sieved and reused for constructing the storage lagoon.
- The Site is flat, and earthworks are expected to be cut/fill balanced or maximise cut material to support gravel extraction.
- A water facility at the Site could provide potential for recreational water uses.

2.4.2 Constraints, Dependencies and Assumptions

Table 2-3: sets out the key constraints, dependencies, and assumptions that need to be considered and refined as the business case lite is developed.

Table 2-3: Key constraints, dependencies and assumptions

Constraints		Notes
C1	Funding is reliant on the RIF and is capped at $25M.	
C2	To meet the requirements set out in the RIF, the Project needs to demonstrate a return on investment.	

C3	The inflow of water to the Site is limited by the conditions set out under the current water take consent/s, among other factors such as losses, and other water takes.	The consent has lapsed, and CDC is operating legally under section 124 of the Resource Management Act (RMA). CDC have applied for a new consent (WAR230259) - this is currently on hold for further information under section 92 of the RMA.
C4	Compliance with consent conditions, which are yet to be determined.	Note that consent conditions can be influenced prior to consent being granted.
C5	Climate change will impact long-term water availability seasonally, impacting the long-term efficacy of the system.	Note that to maximise profits/sale of water, acts in tension with climate resilience. At this point 90th percentile climate conditions (1 in 10-year) as the balance between profits/sale of water and resilience has been selected. Under the effects of climate change, this could become an 80th percentile climate (1 in 5-year).
Dependencies		**Notes and Management strategies**
D1	Obtaining the required project consents that enable the Project to occur.	Expected to be earthworks consents, land use consents, building and/or dam consent at a minimum.
D2	Government decisions on changes to the National Environment Standards for Freshwater (NES: FW) will determine whether expansion of irrigation to pastoral land is permitted, requires consents or is prohibited.	
D3	Maximum ground water level will set the minimum storage height of the water storage system.	To be resolved via site-specific geotechnical investigation including groundwater level monitoring.
D4	Maximum storage height, and therefore embankment height will determine the dam classification and associates consenting requirements.	To be resolved with topographical survey and earthworks design.
Assumptions		**Notes and Management strategies**
A1	CDC's new resource consent application (WAR230259) for water take for the Taratahi Water Scheme will be authorised.	WAR230259 is currently on hold for further information under section 92 of the RMA.
A2	No upgrades to the Taratahi Water Race outside the Site boundary will be required.	Issues with the race may be identified during the project's pre-implementation phase.

A3	Providing large-scale process water storage for the Waingawa Industrial Park will attract new water-intensive industries to the area.	It is assumed that one to two new water-heavy users will choose to locate within the Waingawa Industrial Park over the next 20 years.
A4	Sourcing water from the new storage facility will be commercially preferable for new water-intensive industries at the Waingawa Industrial Park compared to groundwater supply.	The overall cost of obtaining process water from the new facility will be priced to be more commercially attractive. Noting that there is limited allocation available in the underlying aquifer.
A5	The proposal is likely to generate wider economic benefits, although these are difficult to quantify due to uncertainties around feasibility and uptake.	Water storage is likely to generate wider economic benefits, such as land value uplift from irrigation. However, these benefits are difficult to quantify at this stage and would need to be assessed following this business case lite.
A6	The reservoir must be designed to maximize cut material for gravel extraction, which will enhance returns through crushing, sieving, and sale.	The design should maximise gravel extraction, within feasible limits (i.e. above the groundwater kevel). The actual design will take place during the Pre-Implementation Phase.
A7	Water losses across the Taratahi Water Race scheme are assumed at 45%, based on work completed by others (WSP, 2022).	

2.4.3 Uncertainty Log

The uncertainty log for the business is provided in Table 2-4:

Table 2-4: Uncertainty log

Factors	Time	Uncertainty	Impact	Comments
Water race fall.	Near term	Medium	Medium	If water race fall is insufficient or out of alignment with the earthworks design a pump station will be required to maximise storage volumes within the site. **Action:** to be resolved with topographical survey and earthworks design.
Geotechnical information including groundwater information and presence of gravels.	Near term	Medium	Medium	Groundwater levels will impact the depth of the storage facility, and therefore the storage volume that can be achieved. Presence of gravels will impact gravel extraction and sale potential. **Action:** to be resolved via site-specific geotechnical investigation including groundwater level monitoring.

Factors	Time	Uncertainty	Impact	Comments
Baseflows in the Taratahi Water Race.	Short term	Medium	High	Actual available volumes for sale may vary depending on refill rates or baseflows, especially during the critical summer period. **Action:** water balance estimates to be progressively improved based on latest data through the project.
Full occupation of Waingawa Industrial Park by Year 20.	Long term	Medium	Medium	It is assumed there will be steady industrial development. However, timing and extent of occupancy remain uncertain.
Acceptability of water pricing.	Short and long term	Low	High	The proposed pricing for water from the storage facility may not be acceptable to all potential end users. This will need to be further investigated
Water quality for recreational use.	Short term	Low	Low	Some recreational opportunities - such as swimming - may be ruled out due to water quality issues associated with water supplied by the Taratahi Water Race.

2.5 THE CASE FOR CHANGE

The case for change can be summarised as follows:

- The project aligns with the Wairarapa Water Resilience Strategy (and other national, regional and local strategies), as it seeks to improve the water resilience of the region. In particular, the Strategy identifies water storage as one of the options that should be considered when opportunity arises. To this end, the appropriate property access arrangements have been put in place for the project.
- The scheme's basic concept is to capture and store excess flows permitted under CDC's Taratahi Water Race resource consent during the winter, autumn, and spring months, and to use this stored water during the high-demand summer period.
- The scheme's concept would help to address the problem statement and achieve the investment objectives.
- The investment objectives and CSFs focus on ensuring the project can be operational by 2026, that the preferred option must comply with CDC's authorised water takes under the Taratahi Water Scheme and be economically viable.
- Several constraints, dependencies and assumptions have been identified. These will need to be further investigated either in this business case or in the future pre-implementation phase (if progressed).

3 Economic Case

This section of the report evaluates the economic viability of developing a water storage reservoir at the Site to support industrial growth and irrigation.

A long-list evaluation of broader water resilience options was not conducted for this business case lite, as the characteristics of the Site limited feasible options to water storage - one of the options already identified in the Strategy. Consequently, the option development and assessment process focused exclusively on evaluating water storage options specific to the Site, as identified in the Study.

3.1 WAINGAWA FEASIBILITY STUDY OPTIONS ANALYSIS

As discussed above, the Study explored high-level costs and benefits of water storage opportunities at the Site. The primary objective of the Study was to evaluate whether viable water storage options existed that could be potentially economically viable if further investigated.

The Study's option development and assessment processes firstly considered the site's features and location, identifying both opportunities and constraints. Key opportunities identified included its proximity to the Taratahi Water Race (with access to surplus water under an existing resource consent), its location near existing and future developments at the Waingawa Industrial Park, potential for on-site reuse of alluvial gravels and use of excess water for potential irrigation uses.

Five water storage options were initially considered:

- **Option 1:** A seasonal irrigation water storage to supplement the Taratahi Water Race.
- **Option 2:** A process water storage to supply the Waingawa Industrial Park.
- **Option 3:** A combined irrigation and process water storage system.
- **Option 4:** Municipal water storage to support the Carterton urban network.
- **Option 5:** Municipal water storage to support the Masterton urban network.

Table 3-1 presents a summary of the options, cost estimates, and key differentiating opportunities and risks that were identified in the Study.

Table 3-1: Summary of Feasibility Study options

Option	Relative Capital Cost	Benefits and Opportunities	Risks
Option 1: Taratahi Water Races Irrigation Water Storage	$$$	Irrigation and increased productivity/land use change of up to 1,875 ha land. Efficient water use, reuse of existing infrastructure. Potential added value to construct using onsite quarry operations.	Consenting likely triggered by earthworks and dam creation. Security of ongoing water take under s124. Algal bloom risk.
Option 2: Waingawa Industrial Estate Process Water Storage	$	Enable heavy water industry of 120 ha industrial zoned land. Efficient water use, reuse of existing infrastructure.	Consenting likely triggered by earthworks and dam creation.

Option	Relative Capital Cost	Benefits and Opportunities	Risks
			Pressure on existing take consent and no security of ongoing take under s124
Option 3: Combined Process Water and Irrigation Water Storage	$$	Enable heavy water industry of 120 ha industrial zoned land. Irrigation and increased productivity/land use change of up to 450 ha land. Efficient water use, reuse of existing infrastructure. Potential added value to construct using onsite quarry operations.	Consenting likely triggered by earthworks and dam creation. Pressure on existing take consent and no security of ongoing take under s124
Option 4: Carterton Municipal Water Storage	Option not considered further.		
Option 5: Masterton Municipal Water Storage	Option not considered further.		

A high-level evaluation of each option was conducted, considering factors such as costs, benefits, opportunities, and risks. Cost estimates were prepared to an Association for the Advancement of Cost Engineering (AACEI) Class 4 level, with a 50% contingency. The assessment also identified key risks such as consenting requirements, dam classification under the New Zealand Building Code, potential impacts on water availability, and the risk of underutilization. Opportunities included alignment with the RIF, potential revenue from gravel sales, efficient water use through seasonal storage, and potential for water-based recreation.

Following the initial assessment, Option 3, a combined water storage solution (a 270,000m³ reservoir, with 28,800m³ allocated for industrial use), was identified as the preferred option by CDC.

The Study concluded that the combined water storage solution aligns with CDC's strategic vision and offers long-term economic benefits for the region, but further investigations were required to understand the economic viability of the scheme. The Study, including its recommendations for Option 3, were endorsed by CDC in March 2025.

Following completion of the Study, CDC decided to explore the economic viability of the preferred option, specifically, the use of stored water for both irrigation and supplying the Waingawa Industrial Park. However, CDC advised that the reservoir size would be either 500,000 m^3 or 1,000,000 m^3, rather than the 270,000 m^3 originally considered, and the 1,000,000 m^3 sized option could be staged over time. CDC also capped the initial capital cost of the preferred option at $25 million, instead of the earlier estimate of $15 million.

As such, this Economic Case builds on the option development and assessment undertaken for the Study but focuses specifically on exploring options for the following two reservoir sizes:

- Option A: 500,000 m^3
- Option B: 1,000,000 m^3

The analysis below also considers an "Option B staged" process. That is, constructing Option A first, followed by the subsequent development of the remaining storage capacity (an additional 500,000 m^3) over time.

In addition, as the Study had identified a potential opportunity to extract high-grade gravel during reservoir construction, the economic analysis below also includes consideration of this potential economic opportunity.

3.2 ECONOMIC ANALYSIS APPROACH

A comprehensive cost-benefit analysis (CBA) has been completed for the project, offering a clear and detailed assessment of the project's long-term economic viability and overall value for money. In alignment with Treasury guidelines, the analysis used a 40-year evaluation period and applied standard economic assessment methodologies. Sensitivity testing was undertaken to evaluate the robustness of the results under a range of assumptions.

The analysis considered the full range of capital and operational costs, including short-term construction costs, ongoing operational expenses, and long-term maintenance requirements. On the benefit side, the CBA quantified direct revenue from water sales, along with the broader economic uplift (including land value uplift) anticipated through improved water security to the Waingawa Industrial Park and surrounding rural areas.

The potential for revenue generation from gravel extraction during construction has been considered. Excavation activities are expected to generate significant volumes of commercially viable gravel. These volumes were evaluated in terms of material quality, processing costs, and market demand. Net revenues from the sale of extracted gravel have been included in the analysis as a capital offset, recognising that these revenues are time-limited and will cease at the conclusion of the construction phase.

The assessment also examined a range of construction options, including scenarios that maximise gravel extraction by increasing the relative depth of the reservoir. These options were assessed against the additional costs associated with higher embankments and other design requirements.

While the scheme may also offer future recreational benefits through the creation of a water body suitable for leisure use, these potential benefits have not been included in the economic assessment due to the uncertainty around water quality requirements and therefore their feasibility, uptake, and monetisation. Similarly, the project is expected to have positive impacts on the environment, which have not been quantified in this analysis, but are described qualitatively in this section below.

The economic analysis has considered the following options:

- Do Nothing (base case): No reservoir development.
- Option A: Development of a 500,000 m^3 reservoir.
- Option B: Development of a 1,000,000 m^3 reservoir.
- Option B Staged: Development of a 1,000,000 m^3 reservoir in two 500,000 m^3 stages, 10 years apart.

A CBA has been used to evaluate the economic viability of each of the above options. It was determined that Net Present Values (NPV) and Benefit-Cost Ratios (BCR) were to be calculated using a 4% discount rate over a 40-year time horizon.

3.2.1 Key Assumptions of the Economic Model

The economic model used in this analysis incorporates several key assumptions underpinning the economic evaluations. It's important to understand these assumptions, as they affect the interpretation of the results and highlight areas of potential uncertainty.

General Assumptions:

The following general assumptions apply to the economic analysis of all options:

- A 4% discount rate.
- A 40-year analysis period.

Inclusions:

The model includes the following key elements for each of the options:

- Capital and operational costs associated with the construction and operation of the reservoir.
- Revenue from water sales to industrial users, based on projected demand and pricing.
- Revenue from water sales for agricultural irrigation.
- Revenue from aggregate mining (gravel extraction), where applicable.
- Broader economic benefits, including industrial land value uplift and positive economic multiplier effects (e.g. job creation and increased regional output).

Exclusions:

The model does not explicitly monetise the following:

- Potential land value uplift for surrounding rural land due to irrigation. While the potential for significant uplift is acknowledged, as discussed in the "Land Value Uplift and Agglomeration Benefits" section below, it is not included in the core financial calculations.
- Full quantification of recreational benefits. While the potential for revenue from recreational use is noted, a detailed market assessment is required, and therefore these benefits are not fully incorporated into the current analysis.
- Environmental benefits. Potential positive impacts on the environment are acknowledged but not monetised.

Rationale for Exclusions:

Certain benefits are excluded from the core financial analysis due to:

- Difficulty in accurate quantification: Land value uplift and recreational benefits are subject to market fluctuations and require further detailed analysis to determine precise values.
- Focus on direct financial returns: The primary focus of the financial model is on the direct revenue streams and costs associated with the reservoir's construction and operation, to assess its financial viability.

Key Assumptions and Sensitivities:

Several key assumptions have a significant impact on the model's results:

- **Costs**
  - All Capital Expenditure (CAPEX) costs are incurred within a 1-year period for each reservoir.
  - In the Option B staged option, the CAPEX costs for stages 1 and 2 are spaced 10 years apart for the purposes of this analysis. Stage 2 could be brought forward or pushed back depending on demand.

- Operational Expenditure (OPEX) for all options was estimated by examining available data from the CDC Water Asset Management Plan from 2021.[10] The plan presented the total water asset replacement value ($31,816,801 in 2021 dollars) and the annual operational costs ($2,176,573 in 2021 dollars). The OPEX was calculated by dividing the annual operational costs by the total water asset replacement value, resulting in a proportion of 6.84%. This proportion was used to estimate the OPEX spend for each option.
- Project costs: Capital and operational cost estimates are subject to uncertainty. A 50% contingency has been included in the cost estimates, and sensitivity analyses have examined the impact of higher costs, including potential upgrades to the Taratahi Water Race.[11]
- It is assumed that there is zero charge for consented water taken from the Taratahi Water Race for the reservoir. This is because the reservoir's primary function is to support the wider water race network's performance, improving water security and resilience for all users. It is assumed that there will be no significant loss of water volume from the race, no significant degradation of water quality, and no material negative impacts on downstream users.

- **Benefits**
  - The Waingawa Industrial Park benefits are common to all options (excluding the do-nothing option), and include water revenue, industrial land value uplift, and economic multiplier benefits from increased jobs.
  - Gravel extraction costs and revenue are based on data provided by industry. All gravel volumes are assumed to be extracted during construction and sold immediately in Year 1.
  - The irrigation benefits are presented as a range due to the uncertainty regarding baseflows in the Taratahi Water Race, based on the latest water take information from CDC.
  - Benefits (and costs) associated with environmental impacts and any potential recreational opportunities associated with the development of the reservoir have been excluded from the quantitative analysis but are described qualitatively.
  - Wider economic benefits (e.g. land value uplift from irrigation and increased employment due to increased agricultural productivity and the potential for intensification and diversification of land use due to enhanced water reliability) are discussed but are not quantified in the analysis. There is the potential to explore this further in the pre-implementation phase.
  - Timing of benefits: The realization of benefits, particularly those related to industrial development, is dependent on development timeframes. A conservative approach has been taken with respect to uptake of industrial land.

- **Sensitivity Testing**
  - Sensitivity tests were used to assess the resilience of the analysis to uncertainty in key assumptions. Rather than isolating individual parameters, the modelling applied broad percentage changes to both costs and benefits to represent the cumulative effect of multiple uncertainties. This approach provides indicative ranges that encompass potential variations in the following areas:
  - Water demand from industrial users in the future Waingawa Industrial Park: This is dependent on the rate of industrial park development and the water consumption of future industries.
  - Water pricing: The model assumes a base industrial water price. There is potential to add a premium for increased water reliability.
  - Gravel extraction volumes and prices: Revenue from gravel extraction is based on estimates of extractable volumes and market prices, which can fluctuate.
  - Discount rate: The discount rate used to calculate NPV was explicitly varied in the sensitivity analysis to understand its impact.

[10] See: Water Supply Asset Management Plan | Carterton District Council
[11] See: Water Supply Asset Management Plan | Carterton District Council

Potential Risks and Mitigations:

The economic model and the project's financial viability are subject to several potential risks and uncertainties. Table 3-2 outlines these risks and proposes potential mitigation strategies:

Table 3-2: Risks and Mitigations

Risk	Mitigation Strategy
Lower than projected water demand from industrial users	Secure long-term water supply agreements with anchor industrial tenants.
Delays in industrial park development	Phased development of the reservoir to match the pace of industrial park construction.
Lower than expected water prices	Diversify revenue streams (e.g., industrial use, irrigation, recreation).
Fluctuations in gravel market prices or demand	Negotiate favourable gravel extraction contracts with price escalation clauses.
Capital cost overruns	Implement rigorous project management practices, including detailed cost estimation, value engineering, and risk allocation in contracts.
Operational cost increases	Conduct thorough life-cycle cost analysis and explore energy-efficient technologies to minimize long-term operating expenses.
Inaccurate estimation of land value uplift benefits	Continue to monitor comparable land value data from similar industrial areas and revise the land value estimates as necessary. If there is uncertainty, this could be removed from future economic viability assessments.
Uncertainty in realising the economic multiplier benefits	Advise industry and community of the potential for job creation through local labour and procurement policies. Monitor and report economic activity in the region, focusing on employment and increased regional output, after the reservoir is operational.

3.3 DO NOTHING OPTION

3.3.1 Description and Key Assumptions

- This scenario represents the continuation of the current situation. There is no reservoir development.
- The remaining 120 hectares of the Waingawa Industrial Park are developed for dry industrial use.
- Benefits to the community are limited to those generated by the development of the remaining 120 hectares of industrial land with dry industrial activities.
- There is no change to the surrounding rural land uses.
- There are no new revenue benefits to CDC ratepayers.
- There is a lost opportunity to improve the Wairarapa's water resilience.

Costs and benefits are zero for the Do-Nothing option for the purposes of this analysis.

3.4 WATER RESERVOIR OPTIONS

Table 3-3 summarises the capacity, key features, and benefits of each of the three reservoir development options. It identifies the inclusions and benefits specific to each scenario, allowing for clear comparison without repeating detailed descriptions.

Table 3-3: Option descriptions and key benefits

Item	Option A	Option B	Option B Staged
Capacity	500,000m³	1,000,000m³	1,000,000m³ (2 × 500,000m³ over 10 years)
Description	500,000m³ reservoir to supply water to 120ha of industrial land, with buffer available to top up the race as required.	1,000,000m³ reservoir to supply water to 120ha of industrial land. Includes additional irrigation supply.	1,000,000m³ reservoir constructed in two stages 10 years apart to supply water to 120ha of industrial land and additional irrigation supply, enabling cashflow benefits. OPEX increases after stage 2.
Benefits			
Water supply to 120ha industrial land	✓	✓	✓
Irrigation water supply	Buffer only in dry years	✓	✓
Industrial water revenue	✓	✓	✓
Irrigation water revenue	Assumed to be zero	✓	✓
Land value uplift	✓	✓	✓
Job creation	✓	✓	✓
Increased economic activity	✓	✓	✓
Gravel sales revenue	✓	✓✓	✓✓

3.5 WATER RESERVOIR OPTION BENEFITS

The water reservoir options offer similar benefits and differ only by the size of the benefit created from the different amounts of available water supply and, in the case of the Option B staged option, the timing of the benefits. As such, the following sections describe the benefits of all options. Each section concludes with a table summarising the difference between the three options.

3.5.1 Waingawa Industrial Park Benefits

The Waingawa Industrial Park benefits are Water Revenue, Job Multiplier Impact, and Land Value Uplift. This section sets out the details for the quantification of the industrial benefits.

The core assumptions supporting the industrial benefits are as follows:

- Enabling water supply to the Industrial Park will help to attract 1-2 water-heavy industries (see Figure 3:1) to locate to the park.
- The remaining 120 hectares of industrial land will be fully developed for water-heavy industries.
- Taking water is commercially preferable to new groundwater takes or use of the current process water (there is only limited availability of both).
- The benefit model conservatively projects a slow uptake of the industrial land reaching full occupation of the 120 hectares by Year 20.

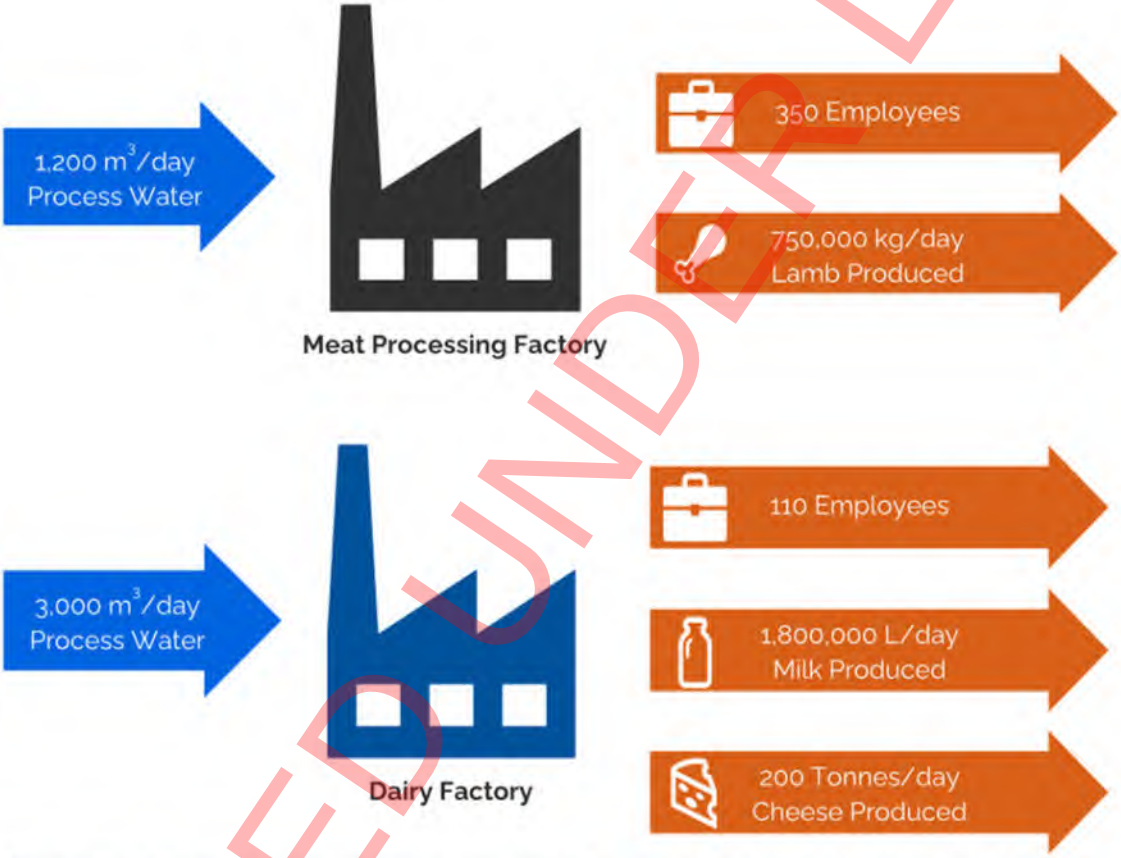


Figure 3:1: Water heavy industry examples that could occupy the site. Input and output values estimated based on Fonterra Stirling[12] and Blue-Sky Meats[13, 14, 15] consents, production and staffing data.

3.5.1.1 Water Revenue

The project is designed to provide a reliable and consistent water supply to support industrial activities, primarily within the planned industrial park. This reliable water access is a crucial enabler for industries that rely on significant water usage in their operations ("wet industries"). By ensuring a stable water source, the project not only facilitates the establishment and growth of these industries but also

[12] See: https://www.orc.govt.nz/media/14567/fonterra-limited-morgan-watt.pdf
[13] See: Consent Documentation
[14] See: https://bluesky.co.nz/about
[15] See: https://www.takeovers.govt.nz/assets/Transactions/Blue-Sky-Meats-Limited-2022-Target-Company-Statement-and-Independent-Advisers-Report.pdf

generates a direct revenue stream through the sale of water to these users. This revenue contributes to the financial viability of the project and helps offset the costs associated with its development and operation. The following outlines the methodology and assumptions used to estimate industrial water revenue.

Methodology/Assumptions:

- **Water Demand**: The annual water demand is estimated based on the projected industrial land area occupied by wet industries. A water usage rate of 12 litres per day per square metre (12 L/d/m²) of industrial land is applied.[16]
- **Industrial Land Occupation**: The projected industrial land area is based on a stepped increase over 20 years, with a 2-year initial delay before development begins. This phased approach accounts for the gradual uptake of industrial land by wet industries once they become aware of the scheme.
- **Water Price**: The base water price is assumed to be $1.25 per cubic metre. This price is lower than the specified $2.25 per cubic metre price on the CDC website for "Water race – metered – for principally commercial/industrial use". It is also noted that the $1.25 per cubic metre price is also lower than the price that Tararua District Council sells potable water to industry at $1.57/m3. Accordingly, the assumed water price is considered conservatively appropriate.

Calculation:
The annual water revenue from industrial use is calculated by multiplying the required number of cubic metres of water (based on 12 L/d/m² x the amount of occupied land in m²) by the average water price. This calculation is repeated for each of the 40 years of the model. Table 3-4 presents the annual industrial park water revenue calculation at full occupation (Year 20).

Table 3-4: Calculation of Industrial Park Water Revenue at full development

Variable	Calculation	Amount
Occupied Industrial Land Area	Total projected industrial land area developed (based on projections described above)	1,200,000 m²
Industrial Area Water Demand	Wet Industry Peak Daily Usage figure from Watercare 2021[17]	12 L/d/ m²
Daily Water Demand	Occupied Industrial Land Area x Industrial Area Water Demand	14,400,000 L
Annual Water Demand	Daily Water demand x 365/1000	5,256,000 m³
Water Price	Assumed (described above)	1.25 $/m³
Annual Water Revenue	Water Price x Annual Water Demand	$6,570,000

The total undiscounted benefit from the Waingawa Industrial Park water revenue over the 40-year analysis period is **$161,740,260.**

[16] cop_water_chapter_8648e958c8.pdf
[17] See: cop_water_chapter_8648e958c8.pdf

3.5.1.2 Industrial Land Value Uplift

The reliable provision of water to the industrial park, enabling the establishment of water-intensive industries, is expected to significantly increase the land's value[18]. This uplift is driven by several key factors:

- Increased Utility and Demand:
  - Industrial land value is fundamentally linked to its utility for businesses. A dependable water supply expands the range of industries that can operate on this site, particularly attracting high-value sectors like food processing, beverage production, and advanced manufacturing. As described above, the site is particularly suited to agricultural industrial processes such as beef/lamb or dairy processing. This increased potential directly translates to heightened demand for the land, driving its value upwards.
- Specialised Infrastructure Premium:
  - Land equipped with specialized infrastructure (e.g. a robust water supply, carries a premium). Similar to the increased value observed in land with rail or port access, the provision of "wet-industry-enabled" infrastructure reduces development costs and operational risks for potential businesses, making the land more desirable.
- Industry Clustering and Economic Growth:
  - A reliable water source fosters the development of industry clusters, where related businesses locate in proximity. This clustering generates economies of scale, promotes innovation, and stimulates job creation, all of which contribute to regional economic growth and, consequently, increased land values.
- Regional Development Alignment:
  - Regional development strategies often prioritize the attraction of water-intensive industries due to their significant economic contribution. By providing the required infrastructure, the project aligns with these strategies, further enhancing the land's value.
- Market Observations:
  - "Wet-industry-enabled" land commands higher prices compared to land limited to dry industrial activities.

Methodology/Assumptions:

- The land value uplift is estimated based on the increased attractiveness of the industrial park to wet industries due to the reliable water supply.
- The uplift is estimated using comparative sales data and land value analysis data from Quotable Value (https://qv.co.nz).
- The land uplift will be realised over the first 20 years of the project.

Calculation:

The Do-Nothing scenario assumes a constant real land value of $97,730 per hectare over the 40-year project timeline, reflecting the current value of developed industrial land in the area[19].

[18] This land value uplift differs from the potential irrigation land value uplift (which is discussed in the irrigation section below)
[19] Based on a sample of 15 properties that have already been developed in the industrial area. The average land value reflects the average of the medium sized lots (6-9 hectares) in the existing developed area

In contrast, the water supply project options incorporate the increased value associated with the ability to attract water-intensive industries. Based on conservative assumptions, the land value is estimated to increase by 20%[20] to $117,280 per hectare, representing an uplift of $19,550 per hectare.

The annual land value uplift was calculated by multiplying the $19,550 uplift per hectare by the number of hectares developed in each given year. This process was repeated for each of the 40 years of the analysis. The land value uplift for each hectare is modelled as a one-time benefit for each hectare.

The cumulative (undiscounted) land value uplift over the entire 40-year period is estimated to be **$2,346,000** ($19,550 x 120 hectares)[21]. This figure represents the total increase in land value attributable to the water reservoir options' ability to facilitate the establishment of water-intensive industries. Further land value uplifts due to inflation, the economic success of industries in the area, and broader agglomeration benefits are not included in the model.

This estimate is based on conservative assumptions and a projected development schedule. Actual land value uplift may vary depending on market conditions, industry demand, and the specific timing of development. However, this figure provides a reasonable assessment of the potential economic benefit associated with the project's potential impact on land values.

3.5.1.3 Job Multiplier Impact

This analysis evaluates the potential for job creation resulting from the transition to wet industries within the industrial park and subsequently assesses the broader economic impact of these new jobs.

Job Creation Calculation:

The number of additional jobs generated by wet industries, compared to dry industries, is estimated based on the differing land use intensities of these sectors. Dry industries are assumed to require 90 m^2 per job, while wet industries utilize 50 m^2 per job[22]. To calculate the total floor space available for each industry type, the projected occupied industrial land area each year is multiplied by the estimated Floor Area Ratio (FAR)[23]. A FAR of 0.4 is applied to dry industries, and 0.3 to wet industries[24]. This calculation reveals that wet industries can generate approximately 20% more jobs than dry industries for the same land area.

However, the analysis acknowledges the limitations imposed by Wairarapa's population and job demand.[25] The current number of filled jobs in the Carterton, Masterton, and South Wairarapa Districts is 20,000, serving a population of 50,000. Population projection data is used to estimate the future number of jobs needed in Carterton over the project's timeline. This indicates that while wet industries offer a higher job creation potential, this advantage is capped by the actual number of jobs needed in the area. Wet industries enable the industrial area to meet the required additional jobs faster, providing a significant short-term benefit, within the initial seven years of the project. Beyond this point, the

[20] This increase is assumed to be solely due to the addition of water supply. Any other variables that may result in land uplift have not been considered in this analysis to isolate the uplift due to water supply

[21] As the full quantum of industrial benefits are enabled in Option A, this estimate is the same for all 3 options

[22] The number of employees per m^2 varies widely depending on the industry and size of the building. Employment densities of 90 m^2/job for dry industries (e.g. manufacturing, logistics, warehousing) and 50 m^2/job for wet industries (e.g. meat processing) are based on a synthesis of published planning benchmarks and facility case studies. These figures reflect the upper end of observed ranges for warehousing and for labour-intensive food processing, particularly meat processing, as reported in the UK HCA Employment Density Guide (2015), Puget Sound Regional Council (2012), and workforce data from Tyson and Hormel facilities.

[23] FAR is the ratio of a building's total floor area to the size of the land it is built on. It indicates how intensively a site is developed

[24] Floor Area Ratios of 0.3 for wet industries and 0.4 for dry industries reflect typical industrial land use patterns, based on zoning provisions and case studies of food processing, warehousing, and manufacturing facilities (e.g. HCA Employment Density Guide (2015), Puget Sound Regional Council (2012)). These international data sources were sense-checked by analysing building area/land area across a sample of large meat/dairy processing and warehousing/ logistics sites in New Zealand using QV.co.nz.

[25] See: Aotearoa Data Explorer - Subnational population estimates (TA, community board), by age and sex, at 30 June 2023-24 (2025 boundaries)

number of jobs that could be generated by the dry industry (i.e. do-nothing) scenario begins to exceed local demand.

Under the above assumptions, a total of 352 additional jobs are created up to Year 7 of the model, before supply of jobs exceeds demand.

Economic Multiplier Effect:
To estimate the broader economic impact of these new jobs, an economic multiplier of 1.5 has been applied. This multiplier acknowledges that when new jobs are created and wages are paid, the effects ripple through the local economy.

- **Direct Impact:** The new jobs provide income for workers.
- **Indirect Impact:** These workers then spend their income at local businesses (groceries, restaurants, retail). This spending becomes income for those businesses.
- **Induced Impact:** Those businesses then use their increased income to buy supplies, pay their own employees, and so on.

The multiplier aims to capture this chain reaction of spending. A multiplier of 1.5 suggests that for every dollar earned in new wages, an additional $0.50 of economic activity is generated in the local economy. This figure is a reasonable and conservative estimate, reflecting a moderate level of local spending and inter-business transactions.

This approach allows us to estimate the total economic contribution of the new jobs, beyond just the initial wages paid. It encompasses the increased economic activity generated by the wages being spent in the local economy and includes the increased tax revenue that results from this increased economic activity. Therefore, the multiplier effect provides a more comprehensive picture of the project's economic benefits to the local community.

Assumptions:

- Wet industries use a lower floor area ratio (0.3) than dry industries (0.4)[24].
- Dry industries require 90 m^2 per job, and wet industries utilise 50 m^2 per job[22].
- Average wage is based on the average wage in Carterton: $73,889 per year[26].
- Job creation numbers will increase proportionally with the increase in industrial land occupation.
- An economic multiplier of 1.5 is appropriate to calculate indirect economic activity.
- Population projection data accurately reflects future job demand in Carterton.

Calculation:

Based on the above assumptions, the total undiscounted economic multiplier benefit is calculated by multiplying the number of additional jobs (352) by the Carterton average annual wage ($73,889) by the economic multiplier (1.5). Accordingly:

- Calculation: 352 jobs x $73,889 annual wage x 1.5 = **$38,991,166**

[24] We explored the idea of determining a wage differential between wet and dry industries, but without knowing the specific industries that would occupy the industrial park in each scenario, it was not possible to assume an average wage for each industry type. Although it is likely that wet industries will derive higher wages, we have opted to conservatively apply no difference between wet and dry industries. Instead, we have opted to use the data available, the average wage data in Carterton based on business employment data from Stats NZ. business-employment-data-september-2024-quarter.xlsx

3.5.1.4 Industrial Benefits Summary

Table 3-5 presents the total industrial benefits of each option. As the benefits are realised in Option A, there is no difference between the options.

Table 3-5: Industrial benefits of each option

Benefit category	Option A	Option B	Option B Staged
Industrial Water Revenue	$161,740,000	$161,740,000	$161,740,000
Industrial Land Value Uplift	$2,346,000	$2,346,000	$2,346,000
Economic Multiplier	$38,991,000	$38,991,000	$38,911,000
Total Industrial Benefits	$216,350,000	$216,350,000	$216,350,000

NB. These are total undiscounted benefits. The Net Present Value of these benefits is presented in Table 5-9.

3.5.2 Gravel Extraction Benefits

Gravel extraction at the Site presents an opportunity to generate economic benefits. This section details the process of quantifying these potential benefits, which involves evaluating the financial viability of extracting and selling gravel, considering extraction volumes, costs, and revenues.

3.5.2.1 Estimation of Gravel Yield

For each extraction option and stage, an estimated percentage of gravel within the total extracted material volume has been determined based on existing borehole data and local knowledge from experienced gravel extractors in the area. The estimated percentages of gravel extracted are 70% of the total material extracted for Option A, and 90% for Option B. For simplicity, and to provide a conservative estimate, 70% for all Options has been adopted.

3.5.2.2 Reservoir Design is to Maximise Gravel Extraction

The initial feasibility study for the water reservoir project focused on a "Cut to Fill Balanced" earthworks approach. This methodology prioritises minimising the overall volume of earth moved by strategically balancing excavated material with the fill required for constructing key features, such as the lagoon bund. The primary objective of this approach is to optimise construction efficiency and reduce earthworks costs.

However, the potential for gravel extraction, as explored within this business case, necessitates a fundamentally different earthworks strategy. To maximise the recovery of valuable gravel resources, a design approach that prioritises deeper and more extensive excavation within identified gravel deposits is required. This contrasts directly with the "Cut to Fill Balanced" method, which aims to minimise excavation.

The change in design necessitated by gravel extraction involves a deeper excavation profile within the reservoir basin compared to the Feasibility Study's balanced approach. This design modification, visually represented in Figure 3:2 below, allows for the targeted removal of significant gravel volumes. While excavating to greater depths inherently increases the unit cost of excavation due to factors such as increased haul distances and potentially more complex excavation techniques, these additional costs are anticipated to be offset, and indeed exceeded, by the revenue generated from the sale of the extracted gravel.

Beyond the direct costs and revenues associated with gravel extraction, the revised, deeper excavation design also yields a notable construction saving. By excavating a larger volume of material from the reservoir basin (to access the gravel), the revised design allows for the construction of lower

bunds, resulting in a reduced footprint for both the bund and the overall reservoir area, and consequently, a lower cost for bund construction. This reduction in the necessary fill volume translates into a direct cost saving in the overall earthworks budget, which we term the "earthworks offset."

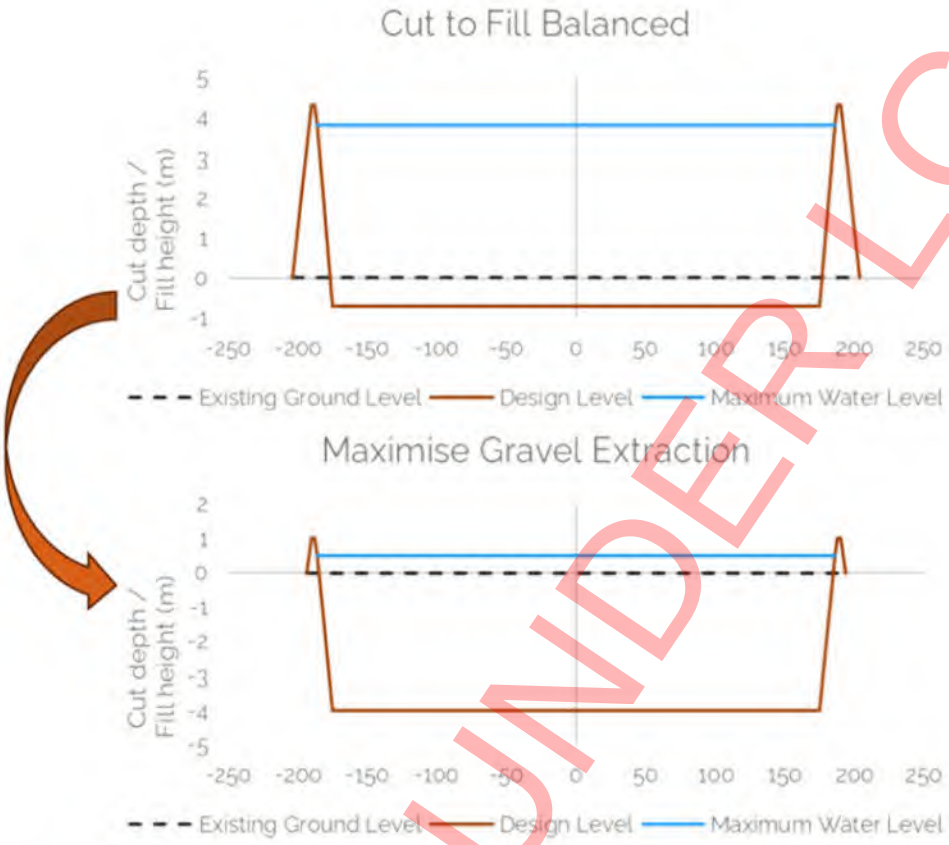


Figure 3.2: Comparison of Reservoir Excavation Profiles - Balanced Cut to Fill vs. Gravel Extraction Design

Gravel Extraction Cost Assessment:

The economic analysis incorporates several cost components associated with gravel extraction based on industry consultation:

- **Extraction and On-site Transport:** A per-gravel-cubic-meter cost of $14.50 is applied to account for the physical removal of the material from the reservoir area and its transportation to an on-site stockpile. This cost is assumed to be consistent across all extraction volumes.
- **Processing:** A per-cubic-meter processing cost of $20.70 is applied to the estimated volume of gravel to prepare it for sale. This cost is also assumed to be consistent across all gravel volumes.
- **Storage and Transport (Off-site):** This cost component could vary depending on whether there is demand for gravel at the time it is extracted. On-site storage is assumed for all options incurring a per-cubic-metre storage cost of $2. However, for Option B and Option B Staged, unless the gravel can be sold as it's extracted, there may be a point where the extracted volume will exceed the space available on-site, at which point gravel will need to be transported and stored offsite at a cost of $10 per cubic metre.

The total cost of gravel extraction for each option and stage is calculated by multiplying the respective gravel volumes by the corresponding per-unit costs above and summing these components.

Revenue Projection:

Potential revenue is projected based on an assumed sale price per cubic meter of gravel of $43. This sale price is influenced by factors such as market demand, gravel quality, and the scale of the operation.

The total revenue for each option and stage is calculated by multiplying the estimated gravel volume by the assumed sale price.

Profit Calculation:

The potential profit for each extraction option and stage is determined by subtracting the total costs from the total revenue. This provides a preliminary indication of the financial viability of each scenario.

Assumptions Underlying the Analysis:

The economic assessment is based on several key assumptions:

- The estimated gravel percentages (70%) are accurate.
- The per-cubic-meter costs for extraction, on-site transport, and processing are consistent with the estimates provided.
- The assumed sale price per cubic meter of gravel is achievable in the relevant market.
- Gravel can be sold as it is extracted such that offsite storage is not required.

Table 3-6 summarises the financial implications of incorporating gravel extraction into the reservoir design. It presents the initial estimated construction cost using the balanced 'Cut to Fill' approach from the feasibility study, the cost reduction achieved in earthworks due to the revised, deeper excavation (the 'earthworks offset'), and the projected profit from gravel sales for each development option. This table allows for a direct comparison of the potential financial impact of integrating gravel extraction into the project.

Table 3-6: Gravel Extraction Cost and Revenue for each option

Cost/Benefit	Option A	Option B	Option B Staged
Base Estimate (Cut to Fill approach)	$25,300,000	$42,100,000	$42,100,000
Earthworks Offset	-$ 2,346,000	-$2,346,000	-$2,346,000
Gravel Extraction Cost	$ 11,482,000	$23,033,000	$23,033,000
Gravel Revenue	-$13,272,000	-$26,624,000	-$ 26,624,000
Gravel Profit	-$1,790,000	-$3,591,000	-$3,591,000

Next Steps:

This analysis is based on preliminary estimates for the purposes of this business case. The future pre-implementation phase provides an opportunity to refine these assumptions and provide a more robust assessment of the economic viability of gravel extraction. This could include further geotechnical analysis, detailed cost quotations, comprehensive market research, and an evaluation of logistical and environmental considerations.

3.5.3 Irrigation Benefits

3.5.3.1 Irrigation Demand Analysis Summary

To evaluate the potential value proposition of providing irrigation water from the proposed reservoir, Perrin Ag Consultants Ltd (Perrin Ag) conducted an irrigation demand analysis for three representative agricultural land use change scenarios within the Taratahi Water Race's target catchment. Their report is attached as **Appendix B**. This section provides a summary of their key findings.

The PerrinAg analysis explored the economic impacts of transitioning existing dryland operations to irrigated systems for the following land uses within the 10,717-hectare target catchment are:

- **Dryland Dairy to Irrigated Dairy:** A scenario examining the conversion of a portion of the catchment's 3,420 hectares of dryland dairy, specifically modelling a 150-hectare platform (e.g. 115 hectares irrigated, 35 hectares remaining dryland).
- **Dryland Arable to Irrigated Arable:** An assessment of converting a portion of the catchment's 1,460 hectares of dryland arable land, focusing on a 60-hectare barley grain operation with winter lamb finishing.
- **Dryland Sheep and Beef to Irrigated Viticulture:** An evaluation of converting a small portion of the catchment's 3,916 hectares of dryland sheep and beef farmland to a 10-hectare Pinot Noir grape vineyard, representing the catchment's existing 2% viticulture land use.

The core of the PerrinAg analysis involved forecasting the change in operating profit (EBIT) for each land use scenario following the introduction of irrigation and/or land use change, relative to the necessary additional capital investment. This allowed for the determination of the potential return on investment for irrigators.

Key Findings:

- **Dairy:** The transition from dryland to irrigated dairy was projected to increase operating profit by $1,980/ha (before water charges), from a baseline of $1,861/ha to $3,546/ha. With an average additional capital investment of $6,480/ha (or $7,700/ha for the irrigated portion), this yielded a 26% return on investment before water costs. Factoring in an estimated annual irrigation water requirement of 3,910 m^3/ha and a water charge of $0.30/$m^3$, the additional operating profit decreased to $785/ha, equating to a 12.1% return on the additional capital.
- **Arable:** Irrigating dryland arable land was forecast to increase operating profit by $861/ha (before water charges), from $1,170/ha to $2,031/ha. The additional capital investment for irrigation infrastructure was estimated at $6,433/ha, resulting in a 13.4% return on investment before water costs. With an estimated annual water requirement of 4,940 m^3/ha for a 9.0 t/ha barley yield, a water charge below $0.05/$m^3$ would be necessary to achieve a 10% return on the irrigation investment, highlighting the sensitivity of this land use to water costs.
- **Viticulture:** Converting dryland sheep and beef to irrigated Pinot Noir viticulture showed the most significant increase in operating profit, by $2,930/ha (before water charges), from $509/ha to $3,439/ha. However, the high capital investment for vineyard development ($97,000/ha) resulted in a relatively low 3.0% return on investment before water costs. With an estimated annual water requirement of 1,150 m^3/ha and a water charge of $0.30/$m^3$, the return decreased slightly to 2.7%. The lower water demand in viticulture mitigated the impact of water charges on profitability, but the overall return on the significant capital outlay remained modest, suggesting limited potential for widespread land use conversion to Pinot Noir based solely on irrigation provision.

3.5.3.2 Water Availability and Irrigation Potential: Impact of Baseflow Conditions and Reservoir Capacity

The feasibility of irrigation from the reservoir is significantly influenced by the available water, which in turn is dependent on seasonal inflows and baseflow conditions, particularly during the critical summer irrigation period. Analysis of the water balance, evolving from average climate scenarios to a more conservative 90th percentile dry year, highlights the variability in water availability. This conservative approach, coupled with an upward revision of estimated water losses to 45%, aims to ensure a secure water supply for on-farm participation, even in drier years.

The water balance modelling also incorporates an assumed summer baseflow or storage recharge rate of 100,000 m^3/month. This assumption is crucial in determining the net available water for irrigation after accounting for primary inflows, water losses, and essential process water use.

Given the inherent variability and the need to ensure reliability, the lower end of the irrigation range (0 hectares) represents a scenario where summer baseflow is insufficient to significantly supplement stored water after accounting for losses and process water use. This conservative interpretation is crucial for risk management and ensuring that irrigation commitments can be met even under unfavourable climatic conditions.

Visualised in Figure 3:3, the seasonal dynamics of water availability are evident. Excess water during the winter and spring months allows for reservoir storage accumulation. However, during the summer irrigation season (December to March), this stored water is drawn down to supplement the significantly reduced excess water and meet irrigation demands, alongside a relatively constant industrial process water requirement.

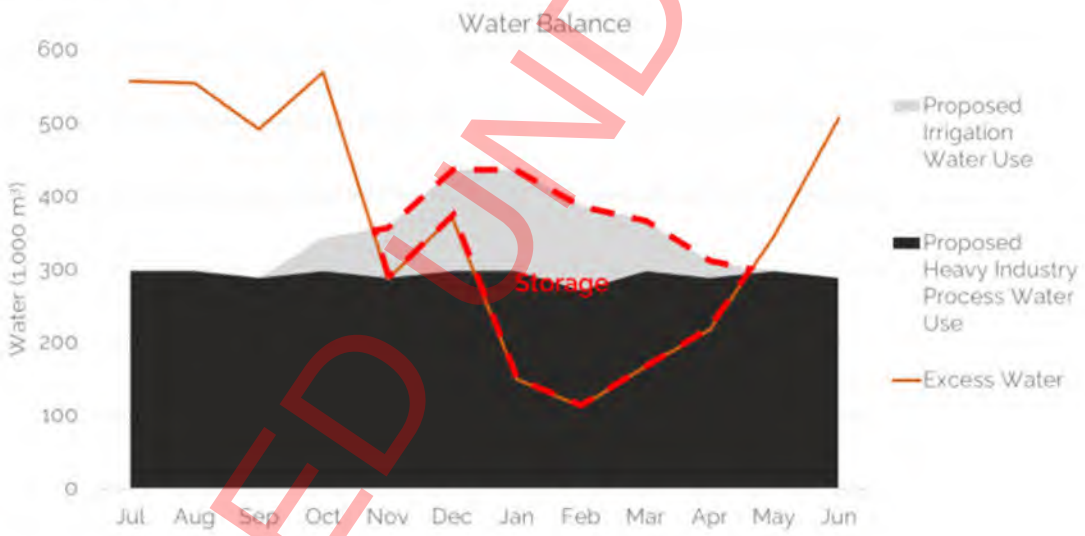


Figure 3:3: Illustrative Monthly Water Balance[27]

Building upon the irrigation demand analysis, the project team, utilising the project's water balance model, calculated the potential irrigable dairy land area under different storage options. Its findings indicated that Option A, with a capacity of 500,000 m^3, could potentially irrigate between 0 and 190 hectares of dairy farmland depending on summer baseflow conditions, resulting in an average annual irrigation water supply ranging from 0 to 700,000 m^3. Increasing the storage capacity to 1,000,000 m^3 under Option B allows for a greater irrigation potential, ranging from 0 to 295 hectares of dairy

[27] The graph is intended to demonstrate the concept of a monthly water balance and the interplay of its components using example data, rather than representing specific results

farmland, with a corresponding average annual irrigation water supply of 0 to 1,200,000 m³ (see Table 3-7). This calculation focused on the dryland to irrigated dairy scenario due to its demonstrated stronger ability to absorb water charges and generate a reasonable return on investment, making it the most economically viable large-scale irrigation demand within the considered land uses. The wide range in irrigable area reflects the sensitivity of the water balance model to various input parameters.

Table 3-7: Option Comparison: Storage and Irrigation Capacity

Scenario	Storage	Summer Baseflow	Irrigation Area	Average Irrigation Water Supplied (m³/yr)
Option A	**500,000 m³**	100,000 m³/month	0 ha	0 m³/yr
		(0 – 300,000 m³/month)	(0 – 190 ha)	(0 – 700,000 m³/yr)
Option B	**1,000,000 m³**	100,000 m³/month	100 ha	400,000 m³/yr
		(0 – 300,000 m³/month)	(0 – 295 ha)	(0 – 1,200,000 m³/yr)

The implications of these baseflow conditions are particularly pertinent when considering the potential irrigation areas under different storage options. The conservative approach adopted in the water balance model, prioritising a secure supply even in dry years, necessitates a cautious interpretation of the irrigation potential under Option A. Therefore, while Option A technically presents a potential irrigable area of up to 190 hectares in more favourable baseflow scenarios, a prudent approach for this business case, particularly in the financial modelling, requires acknowledging the possibility of a zero irrigable area under more constrained baseflow conditions. This highlights the greater resilience and irrigation security offered by the larger storage capacity of Option B.

3.5.3.3 Water Revenue

Water revenue from irrigation is calculated by multiplying the average irrigation water supplied by the proposed water charge for the Dairy scenario of $0.30/m³. Irrigation water is assumed to be available and utilised across all irrigated hectares from year 2 of the analysis period. Water revenue from irrigation for each option is presented in *Table 3-8*.

Table 3-8: Water revenue from Irrigation for each option

40-year cost/benefit	Option A	Option B	Option B Staged
Irrigation benefit (undiscounted)	$ -	$4,680,000	$3,720,000

3.5.3.4 Land Value Uplift from Irrigation and Agglomeration Benefits

The provision of irrigation water can lead to a significant increase in land values, representing an additional economic benefit. Other similar irrigation schemes have highlighted that the conversion of land to more productive uses, such as horticulture, can drive substantial land value uplift. Some of these schemes have indicated that land values in the relevant command area may have increased as result of having access to water from $30,000/ha to $115,000/ha - an uplift of $85,000/ha.

Whilst similar economic benefits could accrue from the project, they have not been monetised for this business case due to uncertainty regarding the potential for irrigation. However, potential value uplifts from irrigation could be explored further at a later stage in the project if desired.

Beyond the direct impact on land values, the project offers the potential for agglomeration benefits. The co-location of water-dependent industries in the undeveloped portions of the industrial park, coupled with the availability of irrigation for surrounding rural land, can foster synergistic economic activity. This clustering of related businesses and enhanced agricultural productivity can lead to increased efficiency, innovation, and overall regional economic growth. These wider economic benefits, while significant, are indirect and will not directly impact the project's financial cash flows or payback period.

3.5.4 Environmental Benefits

The development of a reservoir within the existing water race network presents a range of potential environmental benefits and disbenefits. While a full quantification of these impacts is beyond the scope of this business case assessment, a qualitative description provides valuable insight into the project's potential environmental implications.

Potential Environmental Benefits:

The reservoir offers opportunities for controlled water storage and regulation, particularly beneficial during dry periods, and the potential to buffer peak flows within the water race network. It can also act as a settling basin, improving water clarity if the water races carry turbid water, and may offer limited nutrient reduction. The creation of a new aquatic habitat, along with potential wetland development at the reservoir margins, can support diverse species. If managed appropriately, it can enhance fisheries and provide habitat for wildlife. Additionally, reservoirs can contribute to carbon sequestration and provide various ecosystem services within their local area.

Potential Environmental Disbenefits:

Conversely, the project may lead to increased water demand and extraction, potentially reducing downstream flows and creating water allocation conflicts. Increased evaporation is also a concern. The reservoir could experience water quality degradation through stratification, algal blooms, sedimentation, and increased contaminant concentration. Habitat loss and fragmentation are potential disbenefits, as is the inundation of terrestrial habitats and disruption of fish migration. The reservoir's construction and operation could also contribute to greenhouse gas emissions, particularly methane. Furthermore, changes to nutrient cycling, the introduction of invasive species, and alterations to local micro-climates are potential ecosystem disruptions.

Qualitative Assessment:

A preliminary qualitative assessment suggests that the balance between benefits and disbenefits is context dependent. Controlled release for critical needs, water quality improvement for severely degraded waters, and habitat creation in degraded landscapes are scenarios where benefits may outweigh disbenefits. Conversely, increased water demand for non-essential uses, significant downstream impacts, habitat loss of high-value ecosystems, and high GHG emissions are likely to result in disbenefits outweighing benefits.

Next Steps:

This qualitative assessment provides a foundational understanding of the potential environmental impacts. An environmental impact assessment (EIA) is recommended for the next stage of the project. This assessment will enable the quantification of these benefits and disbenefits, allowing for a more detailed analysis and the development of appropriate mitigation measures. It will also be important to engage with stakeholders, including environmental groups, local communities, and water users, to ensure that all perspectives are considered in the project's long-term sustainability planning.

3.5.5 Recreational Benefits

This section outlines the potential recreational benefits associated with the proposed water reservoir. It is important to note that this is a preliminary assessment, and a more comprehensive recreational economic viability study could be conducted in the future if desired.

Potential Recreational Options:

Several recreational options have been identified for the Site, ranging from active water-based activities to passive land-based amenities. These options include:

- Water-Based Activities (Subject to Water Quality):
  - Initial investigations have indicated that the water within the reservoir, sourced from the water race network, is unlikely to be of a suitable standard for swimming without significant water treatment. Therefore, options that involve direct immersion, such as swimming, wakeboard parks, and inflatable waterparks, are considered unviable. However, should water treatment be considered, these options could be re-evaluated.
  - Alternative water-based activities that minimise direct contact, such as kayaking, sailing, and remote-controlled boating, are still viable options.
  - Trout fishing tourist activities.
- Land-Based Activities:
  - A golf driving range / hole-in-one challenge (like the one at Lake Taupō).
  - Nature trails and hiking paths, including cycling trails.
  - Bird watching and wildlife viewing areas.
  - Picnic and BBQ areas.
  - Outdoor event spaces.
  - Dog walking park.
- Industrial Staff Amenity:
  - There is the potential for the Site to provide a valuable amenity for staff working in nearby industrial areas.
  - A well-designed boardwalk-style path around the reservoir, incorporating native planting and seating areas, could create a pleasant environment for walking, taking breaks, and enjoying lunch.
  - This would offer a significant improvement in the quality of the local industrial environment, and contribute to staff well-being, adding additional benefits to the project.

Next Stage Considerations:

Future investigations could involve:

- Detailed market research to assess the demand for each recreational option.
- A cost-benefit analysis of recreational options, including capital and operating expenses. Part of this will include health and safety requirement costs to maintain safe operation of the water storage facility whilst also enabling access for recreation.
- An assessment of the potential economic impact on the local tourism industry.
- A deeper investigation into the water quality, and the costs associated with water treatment.
- Consultation with local stakeholders and community groups.

This will provide a more robust understanding of the economic viability and potential benefits of each recreational option.

3.6 CONSOLIDATED ECONOMIC RESULTS

Table 3-9 presents a consolidated summary of the economic results for the three development options (Option A, Option B, and Option B Staged) over a 40-year cost-benefit analysis period. It details the key cost components, including CAPEX, OPEX, and gravel extraction costs, alongside the identified benefits, such as irrigation benefits, industrial park water revenue, industrial land value uplift, economic multiplier effects, and revenue from gravel sales. The table culminates in the NPV of both costs and benefits, and the resulting BCR for each option, providing a clear overview of their potential economic viability.

Table 3-9: Economic analysis results for the three options

40-year NPV	Option A	Option B	Option B Staged
CAPEX	$ 22,172,000	$37,774,000	$32,712,000
OPEX (40 years)	$14,901,000	$23,255,000	$19,592,000
Gravel Extraction Cost	$11,482,000	$23,033,000	$23,033,000
Total NPV Costs	**$48,555,000**	**$84,062,000**	**$75,338,000**
Irrigation benefit	$ -	$2,260,000	$1,483,000
Industrial Park Water Revenue	$ 56,486,000	$56,486,000	$ 56,486,000
Industrial Land Value Uplift	$1,395,000	$1,395,000	$1,395,000
Industrial Park Economic Multiplier	$29,357,000	$29,357,000	$29,357,000
Gravel revenue	$ 12,762,000	$25,600,000	$21,728,000
Total NPV Benefits	**$99,999,000**	**$115,098,000**	**$110,448,000**
BCR (NPV Benefits / NPV Costs	**2.1**	**1.4**	**1.5**

3.6.1 Sensitivity Analysis

The sensitivity tests presented in Table 3-10 are designed to provide a high-level assessment of the project's economic viability under various potential changes to key assumptions underpinning the BCR calculations. By adjusting the NPV of costs, the NPV of benefits, and the discount rate, these tests examine how the BCRs for the options might change under different scenarios. These sensitivity scenarios are designed to cover variability in the following:

- The price of water for industrial and irrigation uses.
- Industrial land value uplift lower than modelled.

- Zero change in additional jobs in the industrial area (and therefore zero economic impact).
- An increase in water storage facility costs.
- No onsite storage for gravel extraction.

A lower sale price for gravel.Table 3-10 summarises the BCR for a 40-year cost-benefit analysis under these different sensitivity scenarios, providing insight into the robustness of the economic case to variations in the initial assumptions.

Table 3-10: Sensitivity Tests

40-year cost/benefit	Option A	Option B	Option B Staged
25% higher cost	1.6	1.1	1.2
6% Discount Rate	1.4	1.0	1.1
25% lower benefits	1.5	1.0	1.1
25% higher benefits	2.6	1.7	1.8

3.7 RECOMMENDED OPTION

The recommended option is Option A, to construct a 500,000m^3 reservoir to provide seasonal water storage for the Waingawa Industrial Park and for irrigation within the Taratahi Water Race Command Area. Importantly, this option allows for future staging, with the potential to incrementally expand the reservoir to a total capacity of 1,000,000m^3 over time (i.e. Option B Staged).

Overall, the project is expected to enhance water resilience in the Wairarapa. An assessment of the recommended option against the Wairarapa Water Resilience Strategy's guiding principles[28] for water storage projects is provided in Table 3-11.

Table 3-11: Assessment against the Wairarapa Water Resilience Strategy's Guiding Principles

Wairarapa Water Resilience Strategy's Guiding Principles	Remarks and Alignment
Equity *The load of improving resilience needs to be widely shared across the whole community, though not necessarily equally in terms of geography, seasons or use type.* *Access to water and the benefits of resilience need also to be widely shared. This includes rural and urban communities, enterprises and industries.*	The project will enable enhanced seasonal water availability to all potential water users that can use it to generate revenue, within the Command Area. This is considered appropriate given the non-potable water source and limited urban uses. It is expected that the communities within the Wairarapa will share in the wider economic benefits to the region. Alignment Assessment: **Medium - Excellent**

[28] Wairarapa Water Resilience Study, 2021, Section VII, Chapter 11: Principles and preferences, page 87

Wairarapa Water Resilience Strategy's Guiding Principles	Remarks and Alignment
Natural resilience *Any measures taken need to blend natural and constructed solutions. There needs to be a strong emphasis on the enhancement of ecosystems that support natural resilience – that is, the capacity of the environment to renew and sustain itself. This includes ideas such as natural character and indigenous biodiversity. On the other hand, towns are an artificial concentration of people requiring specific, predominantly constructed, solutions.*	The Project does not include ecosystem development at the water storage site. However, it's location and function protect existing ecosystems and biodiversity in the Waingawa River. This is achieved by maximising winter water takes, to provide water to support economic development, without putting additional pressure on summer water flows, which are more critical for ecological health. In addition, the "offline" construction will result in minimal disruption to ecosystems developed in the Taratahi Water Race Scheme. Alignment Assessment: **Medium**
Mauri *The integrity of the water as water is vital to Māori. The gradually restoration and protection of the mauri of Wairarapa water is both a principle and an objective.*	For *mauri* to be truly upheld, the project would need to demonstrate a commitment to not only water quantity but also water quality and the broader health of the ecosystem, as the "integrity of the water as water" is paramount. This requires a deep understanding of Māori values and a genuine partnership in decision-making to ensure the project contributes to the gradual restoration and protection of the *mauri* of Wairarapa water, rather than diminishing it. By optimising water availability within existing environmental constraints (set by the water take consent conditions), the Project prioritises the mauri of the Waingawa River in low flow times. However, wet industry (enabled by the water storage) is reasonably expected to produce higher volumes of industrial wastewater. This will require close management to ensure that water quality objectives and cultural aspirations to restore mauri are achieved before it is returned to the environment. Enabling on-farm intensification via irrigation of pastoral land will result in increased aquifer recharge. But also, increased aquifer contamination by nitrates and potentially other leachable parameters. On-farm practices that promote sustainable use of nutrients and minimise nutrient losses should be enables and promoted. Alignment Assessment: **Medium**

Wairarapa Water Resilience Strategy's Guiding Principles	Remarks and Alignment
Prosperity *Actions that might emerge from the Strategy need to be measured with regard to contribution to community prosperity and the viability of businesses and enterprises, mindful of other principles such as equity and natural resilience.*	The BCR for the project is above 1, indicating that the project is economically viable. Local benefits will arise from new industries relocating to the Waingawa Industrial Park, along with secondary benefits such as job creation, environmental improvements, and enhanced recreational opportunities. Land values are also expected to increase. **Alignment Assessment: Excellent**
Value *The focus of the use of water needs to be on best value, though value needs to be assessed not just in economic but social and cultural terms.*	The project promotes more efficient use of water by storing excess water available under an existing resource consent during periods of low demand. This stored water will later be used to support economic activities - such as additional industry and irrigation - which, in turn, will contribute to local job creation. **Alignment Assessment: Excellent**
Knowledge *Increasing and improving our knowledge and understanding of water and water resilience where knowledge includes scientific and cultural understanding such as Matauranga Māori. This includes public understanding of water resilience through information and education.*	The preferred option could present an opportunity to educate the local community about sustainable and resilient water systems, how water supply for industry in their community is impacted by climate change and solutions, like this project, that are being put in place to mitigate these effects. **Alignment Assessment: Medium**
Reliability/consistency *Contemporary urban communities and farming enterprises rely heavily on reliability and consistency of the availability of water. The importance of this principle is increasing, while reliability, as a result of climate change, is abating. The gap is widening.*	The preferred option mitigates the impact of seasonal availability of water by providing a more reliable year-round supply of water to local communities. **Alignment Assessment: Excellent**

Wairarapa Water Resilience Strategy's Guiding Principles	Remarks and Alignment
Multiple solutions *No one solution is going to do the job. Multiple solutions add a security factor in that where one fails or partially succeeds, another might succeed. This principle also draws on the collective effect of multiple interventions which might act as multipliers of each other.*	The preferred option represents one potential "solution" within the "Multiple solutions" objective of the Wairarapa Water Resilience Strategy. By providing a stored water resource, it offers a buffer against drought and low flow conditions, contributing to the overall water management toolkit for the region. A key opportunity lies in strategically integrating the project within a broader portfolio of water resilience solutions. To fully realise the "Multiple solutions" objective, future efforts should focus on actively developing and implementing complementary approaches that directly enhance the benefits of the facility. This includes investing in and promoting water efficiency measures for those utilising water from the storage, exploring the potential of the facility to support the diversification of water sources, and supporting land management practices within the catchment that can improve the quality and longevity of the stored water. **Alignment Assessment: Medium**
Rural and urban as one *Water resilience applies in both rural and urban areas and is a challenge in both settings. Solutions are favoured that add value in both settings.*	The preferred option's site, whilst set in a rural area, offers a connection to urban resilience by promising improved water security for businesses in the Waingawa Industrial Park. A reliable water supply offers potential synergies between irrigated rural land and the industrial area, such as supporting the establishment or expansion of meat and dairy processing plants within the industrial park. This direct link between rural agricultural output and urban economic activity creates an agglomeration effect, where the success of one sector bolsters the other, and fosters a more integrated and resilient regional economy. **Alignment Assessment: Excellent**

4 Financial Case

The purpose of the Management Case is to describe likely revenue generation, capital and operational costs of the recommended option.

4.1 CAPITAL AND OPERATIONAL COSTS

The capital expenditure (CAPEX) and operational expenditure (OPEX) for the options, as determined by the completed economic case analysis, are as follows:

Cost Category	Option A	Option B	Option B Staged
Water Reservoir CAPEX	$22,172,000	$37,774,000	$37,774,000
OPEX (40 years)	$30,372,000	$47,539,000	$43,939,000
Gravel Extraction	$11,482,000	$23,033,000	$23,033,000

Water reservoir costs encompass the construction of the reservoir(s) and the ongoing operational requirements for water treatment and distribution to the industrial park. A breakdown of CAPEX cost estimates for each option are presented in **Appendix C.**

4.2 EXPECTED REVENUE

The primary revenue streams for the project, as identified in the economic case, are:

- **Water Revenue (Industrial Use):** Revenue is generated from the sale of water to wet industries within the developed industrial park.
- **Revenue from Irrigation:** Revenue is generated from the sale of water for agricultural irrigation purposes.
- **Revenue from Gravel Extraction:** Revenue is generated from the extraction and sale of gravel from the reservoir site (for the "Gravel" inclusive options).

Other potential benefits and wider economic benefits include:

- **Industrial land value uplift:** Quantifiable uplift in land value because of shifting the remaining undeveloped industrial land from dry to heavy water use industry (included in the economic model).
- **Economic multiplier (industrial park):** Quantifiable direct and indirect benefits of increased jobs in the industrial area doe to wet industry (included in the economic model).
- **Irrigation land value uplift and increased employment on rural land:** Potential direct and indirect benefits of intensification and diversification from the addition of irrigation to nearby rural land (potential to be quantified at a later stage).
- **Revenue from recreational use:** Revenue could be generated from user fees, licenses, or concessions related to recreational facilities developed at the reservoir site.
- **Environmental benefits:** There is the potential to quantify environmental benefits at a later stage.

4.3 BENEFICIARY PAYS APPROACH AND PROPOSED FUNDING SOURCES:

This section outlines a proposed *beneficiary pays* approach for funding the project. Under this model, costs are allocated to those who directly or indirectly benefit, ensuring financial responsibility is aligned with the advantages gained. Identifying and quantifying these benefits is crucial to developing a fair and sustainable funding model.

Beneficiaries and Funding Contributions:

The key beneficiaries of the project and their associated funding contributions are:

- **Council and Ratepayers:** Benefit from enhanced regional water security, economic growth, and potential land value uplift. Funding would come through council rates, the base water charge, and revenue from water sales to users.
- **Industrial and Irrigation Users**: Benefit directly from a secure and reliable water supply, enabling business growth and profitability. They would contribute through connection fees and usage charges.
- **Wider Economy**: Gains from indirect benefits such as job creation, economic multipliers, and broader land value increases. These benefits are not directly charged for but are considered when assessing the project's overall economic value.

Funding Sources:

The anticipated funding sources aligned to the beneficiaries are:

- Revenue from water sales to industrial and irrigation users (collected by CDC).
- Council ratepayer contributions through targeted rates or general rates funding the core water supply infrastructure.[29]
- A potential low-interest loan from MBIE's RIF, with repayments integrated into CDC water charges.
- User fees from recreational users, if applicable.

Revenue and Benefit Flows:

- Water sales revenue is collected by the council from industrial and irrigation users, supporting operational costs and loan repayments.
- Industrial and irrigation users realise business benefits from reliable water supply but do not receive direct revenue from the project.
- Broader economic benefits, such as job creation and land value uplift, accrue to the region as a whole.

Table 4-1 presents the proposed cost share based on the following assumptions

- 50/50 split of economic multiplier benefits between CDC and the wider economy.
- CDC ratepayers derive 100% of water rate revenue and 100% of gravel sale profits[30].

Further Considerations

- Potential purchase or lease agreement for the reservoir land will impact the cost share.
- The specific terms of any Regional Infrastructure Fund loan will influence the final funding model.

[29] There is the potential for Masterton and South Wairarapa District ratepayers to benefit from the increased availability of jobs and economic uplift for the region. The next phase should explore the potential of a cost share agreement between the three councils

[30] This assumes that CDC purchase the property at 145 Norfolk Road

- The profitability of gravel extraction and the appropriate level of the landowner's premium water charge (if applicable) will need to be analysed in more detail.
- Long-term operational and maintenance costs must be factored into the financial model and fairly allocated across beneficiaries.

Adopting a beneficiary pays approach will ensure the financial burden of the project reflects the value received by each stakeholder, promoting fairness and long-term sustainability. The next step will involve detailed financial modelling to develop a robust funding strategy.

Table 4-1: Beneficiary cost share

Beneficiary	Option A	Option B	Option B Staged
Council Ratepayers	$73,141,000	$76,689,000	$72,039,000
Wider economy	$15,376,000	$15,376,000	$15,376,000
Total	$ 88,518,000	$92,065,000	$87,415,000
Percentage cost share	**Option A**	**Option B**	**Option B Staged**
Council Ratepayers	83%	83%	82%
Wider economy	17%	17%	18%
NPV Cost split	**Option A**	**Option B**	**Option B Staged**
Council Ratepayers	$40,121,000	$70,023,000	$62,086,000
Wider economy	$8,434,000	$14,040,000	$13,252,000

4.4 FORECAST COST/REVENUE PROFILE AND AFFORDABILITY:

The detailed year-by-year forecast of costs and revenues, forming the basis for the NPV and BCR calculations, demonstrates the projected cash flows for each development option over the 40-year project timeline. The affordability assessment, based on these projections, indicates the project's potential to meet operational costs, service potential debt obligations, and provide a return on investment.

It is important to note that all benefits that cannot be realised as cash in the economic analysis are not included in the projected cashflows. Figure 4:1 presents the projected cashflow for the three options.

Figure 4.1: 40-year cashflow of each option

Table 4-2 below presents key financial metrics for each project option, highlighting the significant upfront investment required to initiate the reservoir development. Given the scale of these initial outlays, particularly for Option B and Option B Staged, external funding, such as a low-interest loan from the RIF or similar sources, will be crucial to bridge the gap between initial expenditure and the realisation of revenue streams. The *Initial Funding Requirement* represents the maximum negative cumulative cash flow, indicating the peak funding needed. It's worth noting that the cost estimates include a 50% contingency, suggesting a potential opportunity for actual costs to be lower, which would improve the financial metrics.

The *Payback Period* is a critical metric, indicating the time required to recoup this initial investment. Several factors could affect the actual payback period, introducing potential risks. Delays in the Waingawa Industrial Park development or slower-than-projected uptake of irrigation water could push revenue generation further into the future, extending the payback period. Conversely, fast-tracking the development of the industrial park could accelerate revenue generation and shorten the payback period. To mitigate risks related to revenue, strategies such as phased development (as explored in Option B Staged) and securing firm commitments from key industrial water users could be employed. Furthermore, robust contract terms for gravel extraction and proactive management of construction costs are essential to maintain the projected financial timeline and improve the payback period.

Table 4-2: Affordability and cashflow metrics for each option

Financial Metric	Option A	Option B	Option B Shared
Initial Funding Requirement	-$33,654,000	-$60,808,000	-$33,654,000
Total Funding Requirement	-$38,594,000	-$69,150,000	-$52,035,000
Payback Period	22 years	26 years	24 years
Internal Rate of Return	3%	-1%	1%
Total net profit (undiscounted) at 40 years	$110,986,000	$84,698,000	$87,257,000

While all options demonstrate strong long-term revenue potential, the significant upfront capital requirements, extended payback periods, and relatively low internal rates of return (IRRs) mean that securing external funding support will be critical to project delivery. As shown in Table 4-3, substantial capital and operating expenditure is required across all options, particularly for Options B and B Staged. Combined with long payback periods and modest IRRs, this reinforces the need for a low-cost financing solution, such as a RIF loan, to bridge the early funding gap.

Securing appropriate funding will be essential not only to manage early cashflow pressures but also to enhance overall project affordability and financial resilience. A detailed funding and financing strategy will be developed for the next project to confirm the best approach for progressing the preferred option.

Table 4-3: Funding/financing required for each option

	Option A	Option B	Option B Shared
Capital expenditure	$22,172,000	$37,774,000	$37,774,000
Operating expenditure	$30,372,000	$47,539,000	$43,939,000
Total expenditure	$52,544,000	$85,313,000	$81,714,000
Revenue	$163,530,449	$170,011,465	$169,051,465
Capital required	-$38,594,000	-$69,150,000	-$52,035,000

4.5 SUMMARY

The economic and financial case for the project demonstrates its significant long-term economic viability. The project is projected to deliver substantial benefits to the region, including increased industrial output, enhanced agricultural productivity, and regional economic growth. These benefits, quantified through the cost-benefit analysis, confirm the project's potential to generate a positive return on investment and contribute to the Wairarapa's economic resilience.

However, the analysis also highlights substantial upfront costs, posing significant affordability challenges for the project and / or CDC. The capital expenditure required for reservoir construction necessitates external funding support to ensure the project's progression.

In this context, securing co-investment from the RIF to undertake further design/investigations will be important. RIF funding would alleviate the short-term financial burden on the CDC for design / investigations, making the project feasible to initiate. While the long-term revenue streams from water sales and other sources are projected to ensure the project's financial sustainability, RIF support is essential to address the short-term affordability gap.

5 Commercial Case

The commercial case outlines the following:

- The scope for the design and construction phases of the recommended Option A (500,000 m3 reservoir).
- The proposed procurement arrangements for the pre-implementation and implementation phases.
- The key recommendations for consenting.

5.1 INVESTIGATION AND DESIGN SCOPE

The key design scope elements for the preferred option are as follows:

- Geotechnical design and associated investigations to inform site-specific embankment dimensions with appropriate resilience to earthquake loading, settlement, hydraulic pressures.
- Civil design and associated investigations of the 500,000 m3 HDPE lined earthen lagoon/s.
- Civil and waters design and associated investigations of the:
  - Fill rate and intake from the Taratahi Water Race Scheme.
  - Discharge rate and outlet from the water storage to the Taratahi Water Race Scheme.
  - Reticulation to the Waingawa Industrial Estate.
- Potential civil design and associated investigations of culverts or open drains to increase conveyance capacity through key sections of the Taratahi Water Race that may be required to maximise intake and/or distribution.
- Potential civil/mechanical/electrical design of a pumpstation at the intake or outlet as required.

5.2 LIKLEY CONSENTING REQUIREMENTS

5.2.1 Key Consenting Issues

The key consents identified for the project to date are as follows:

- Earthworks consent.

  Noting the site is not identified as HAIL, but there is potential for the earthworks management and consenting complexity to increase if site specific investigations identify contaminated land.
- Building consent and/or dam consent (depending on the embankment height).
- Land use.

Other key issues include:

- A full planning assessment and strategy for the project has not been completed, it is possible that other consents may be triggered by the Project.
- Public notification of resource consent applications, which may extend the project timeline.

A related consenting issue is the timing of when CDC's new resource consent for the Taratahi Water Race will be obtained. It is also noted that individual farmers may require resource consents if they choose to intensify their existing land uses if they decide to use water from the project.

5.2.2 Recommendations

It is recommended that a consenting strategy be developed for the project as a matter of priority.

5.3 IMPLMENTATION PROCUREMENT RISKS AND OPPORTUNITIES

At this stage, several notable procurement-related risks and opportunities have been identified for the implementation phase:

Risks:

- Limited availability of contractors to undertake construction within a short timeframe.
- Potential difficulty in sourcing the appropriately volume of HDPE liner within required timeframes. Noting, that this could be purchased by CDC as a Principal's supplied item to mitigate the risk of long lead times.
- Risk of CDC committing too early to a specific procurement model for the implementation phase, potentially resulting in reduced value for money.

Opportunities:

- Opportunity to retain the existing professional services supplier to support continuity and efficiency through the pre-implementation phase.

The pre-implementation and implementation phases of the project are expected to be delivered through CDC's standard traditional procurement processes.

5.4 OPERATIONAL PROCUEMENT

The procurement approach for maintaining and operating the reservoir has yet to be confirmed. However, the operating model will be further developed during the pre-implementation phase. It is anticipated that a trust or limited company will be established to take on responsibility for the operation and maintenance of the reservoir facility. In the interim, should it be necessary, CDC has the capacity to manage and operate the reservoir on a short to medium term basis.

The allocation of stored water via permits, the commercial collection of water rates etc will continue to be managed via the same commercial set up as the Taratahi Water Race.

6 Management Case

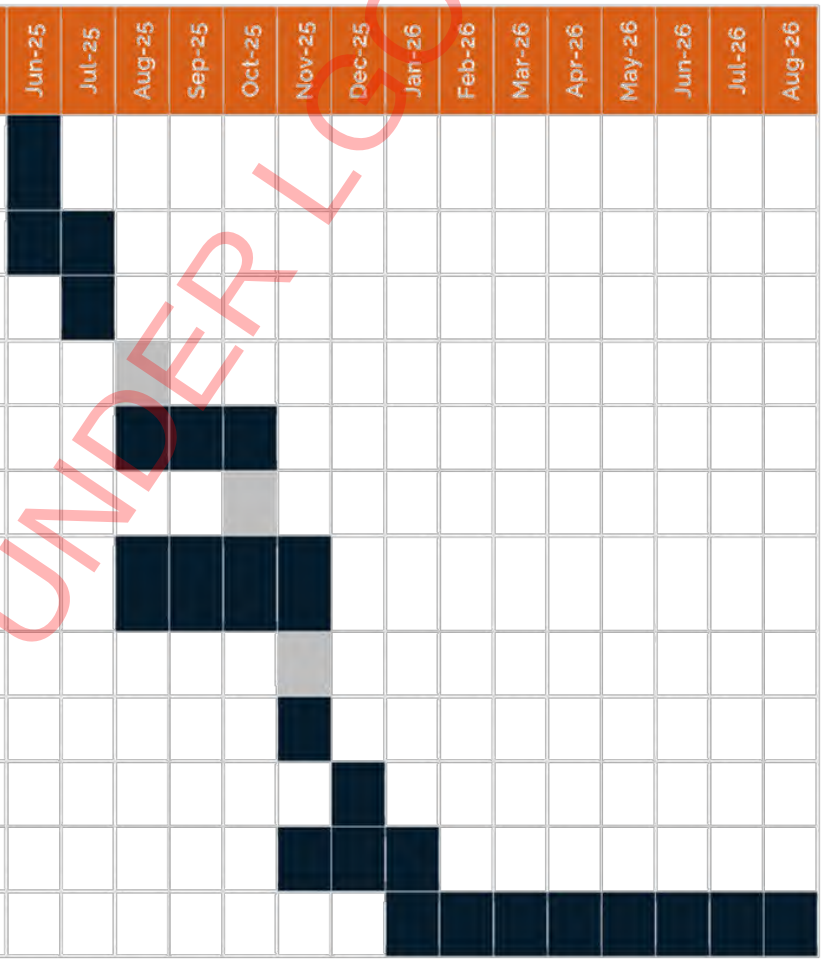
The purpose of the Management Case is to describe the arrangements to be put in place for the successful delivery of the project. It identifies who will be responsible for project delivery and how scope changes and risks will be managed.

6.1 PROJECT MILESTONES

The key project milestones are summarised below in Table 6-1.

Table 6-1: Project milestones

Task	Duration	Start	End
Planning assessment and strategy	3 weeks	2-Jun-25	20-Jun-25
Site investigations	6 weeks	2-Jun-25	11-Jul-25
30% Design	5 weeks	30-Jun-25	1-Aug-25
Hold Point 1 Client Review	2 weeks	4-Aug-25	15-Aug-25
100% Design	8 weeks	18-Aug-25	10-Oct-25
Hold Point 2 Client Review	2 weeks	13-Oct-25	24-Oct-25
Resource Consent Application and Processing	12 weeks	18-Aug-25	7-Nov-25
Hold Point 3 Client Review	2 weeks	10-Nov-25	21-Nov-25
Building Consent Application	1 week	24-Nov-25	28-Nov-25
Building Consent Processing	4 weeks	1-Dec-25	26-Dec-25
Tender and Contract award	6 weeks	24-Nov-25	2-Jan-26
Construction	35 weeks	2-Jan-26	7-Oct-26



6.2 GOVERNANCE AND MANAGEMENT ARRANGEMENTS

Figure 6:1 and Table 6-2 set out the governance and management arrangements for the project.

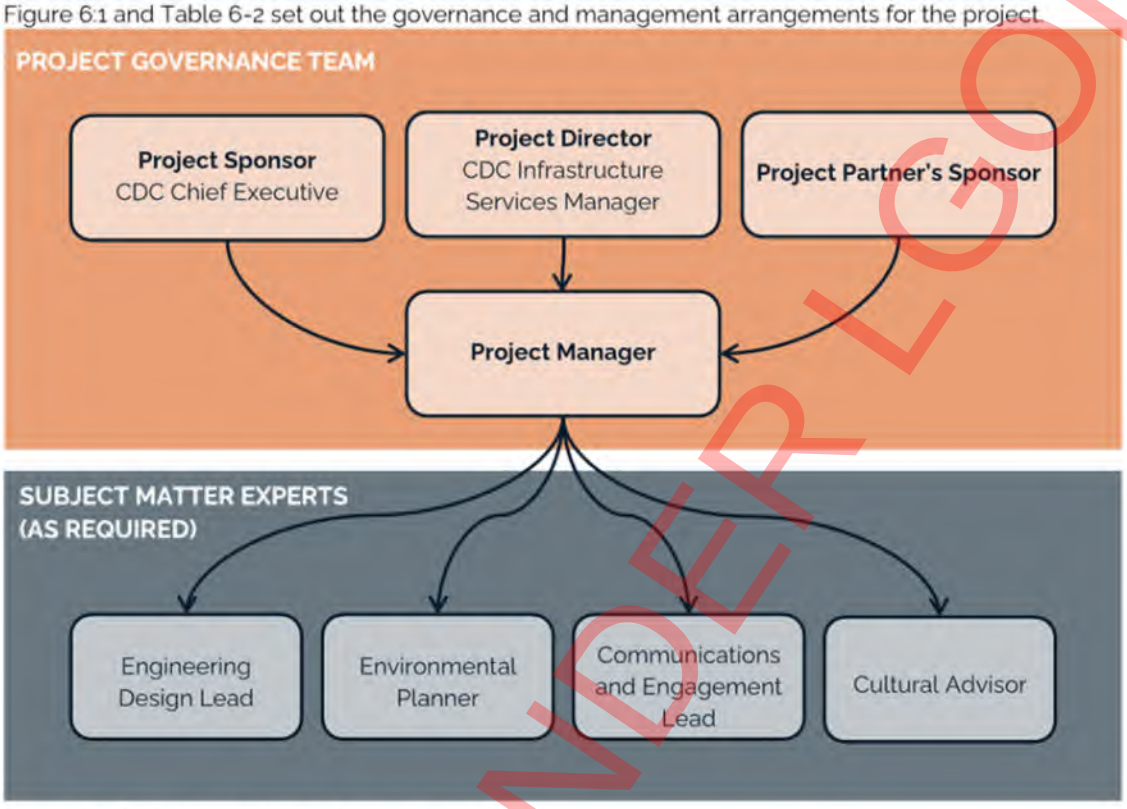


Figure 6:1: Project management arrangements

Table 6-2: Key roles and responsibilities for the project

Role	Responsibilities
Project Governance	CDC Policy and Project Committee.
Project Sponsor	CDC Chief Executive. Internal champion for the project. Assures ongoing alignment with agreed project outcomes.
Project Director (PD)	Infrastructure Services Manager. Will ensure the project is successfully delivered, providing the intended benefits and outcomes across the pre-implementation and implementation phases. Will also be responsible for reporting to Project Governance and Sponsor.
Project Manager	Responsible for day-to-day management of the project team and ongoing engagement with key stakeholders. Will ensure that all workstreams are supported and integrated to deliver the project successfully for the remaining project phases (this would include managing any scope change requests).
Other Subject Matter Experts (required from time to time)	• Environmental Planner (e.g. for consent advice). • Engineering Design Lead • Communications and Engagement Lead (e.g. project communications and engagement). • Cultural Advisor (i.e. assist with hapū engagement).

6.3 ISSUES MANAGEMENT

Key risks and issues for the project are expected to be managed through the *Waingawa Project Risk Register*. The Project Manager will be responsible for escalating all issues and risks to the Project Director as well as updating the risk register when required.

6.4 CHANGE CONTROL

Changes to the project scope will be the responsibility of the Project Manager. All changes will be recorded in the *Waingawa Change Control Register* by the Project Manager and reported to the Project Director as appropriate. The purpose of this register is to ensure that the interdependencies of any changes are managed appropriately. In general, any significant possible changes in the scope to the project, including adjustments to costs, programme and quality will be subject to the approval of the Project Director.

6.5 REPORTING ARRANGEMENTS

Reporting on the progress of the project will be the responsibility of the Project Director and Project Manager. Reporting is likely to involve updates on project progress, costs and risks. Reporting is likely to occur monthly.

6.6 COMMUNICATIONS AND ENGAGEMENT ARRANGEMENTS

Communications on the project will be led by CDC's Communications and Engagement Lead. It is expected that a fit-for-purpose Communications and Engagement Plan will be developed to cover the design and construction period. This Plan will be put in place in mid-2025.

It is noted that development of the Communications and Engagement Plan for the project will be premised on the International Association for Public Participation (IAP2) processes. Accordingly, any plan will include among other matters key communication and engagement activities / milestones, key stakeholders and engagement risks for the programme roll out.

6.7 KEY DELIVERY PROJECT RISKS

The Project Manager will be responsible for managing the risks. A detailed *Waingawa Project Risk Register* will be developed at the commencement of the pre-implementation phase.

To help inform future risk analysis the following high level risk register was identified and is summarised in Table 6-3 below.

Table 6-3: Key project delivery risks

Description	Likelihood	Consequence	Risk Rating	Mitigation	Residual Risk Rating	Owner
Pre-implementation phase funding may not be secured in a timely manner, leading to project delays.	Likely	Severe	High	Engage early with MBIE regarding potential resilience infrastructure funding. CDC to contribute to pre-implementation funding requirements	High	Project Director
The consenting process may become complex and take longer than anticipated, placing pressure on the timeline for construction.	Possible	Severe	High	Develop a consenting strategy as a priority, ensuring the consent process is expedited.	Medium	Project Director
A contractor may not be available, delaying the project's operational start date.	Likely	Severe	High	Conduct early market sounding with industry and escalate any concerns to Project Governance.	Medium	Project Director

Description	Likelihood	Consequence	Risk Rating	Mitigation	Residual Risk Rating	Owner
The HDPE liner may not be available on time, delaying the project's operation.	Possible	Severe	High	Conduct early market sounding with industry and escalate any concerns to Project Governance.	Medium	Project Director

7 Next Steps

The next steps for the project are as follows:

- Apply to MBIE for RIF funding to support the pre-implementation phase.
- Once funding is approved, CDC to confirm procurement of the professional service providers for the pre-implementation phase.
- Commence **Pre-implementation Phase**, including:
  - Mobilise the pre-implementation team.
  - Develop a consenting strategy.
  - Prepare concept designs, including topographical survey and geotechnical investigations.
  - Complete a 30% design hold point, followed by a cost review.
  - Update CBA to reflect refined costs and benefits
  - Develop and implement communications and engagement plan.
  - Commence detail design and resource consents.
  - Investigate legal entity options for the operation and maintenance of the water storage scheme.
- Initiate **Implementation Procurement**, including:
  - Develop and implement the procurement strategy for construction and HDPE liner.
  - Undertake market sounding to confirm industry capability and interest in construction of the storage facility.
  - Conduct the implementation tender process for construction and HDPE liner.
  - Secure a construction contractor.

Appendix

A

Waingawa Water Storage Feasibility Study

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Appendix

B

Irrigation Demand Analysis

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Appendix

Cost Estimates: Options A and B/B Staged

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Cost Estimate

Waingawa Water Storage - 500,000 m³ Lagoon Storage

ITEM	DESCRIPTION	UNIT	QTY	Rate	Amount
1.0	**Preliminary and General**				
1.01	Preliminary and General	%	15	$11,176,775	$1,676,516
				Sub Total	$1,676,516
2.0	**Inlet Works**				
2.01	DN 525 intake pipe	m	10	$874	$8,742
2.02	DN 525 intake structure	ea	1	$2,622	$2,622
2.03	DN 525 valve and manhole	ea	1	$9,882	$9,882
				Sub Total	$21,246
3.0	**Storage Lagoon**				
3.01	Cut to Fill	m³	9,501	$10	$95,013
3.04	Underdrains	m	10,434	$70	$730,380
3.05	Geotextile	m²	123,879	$4	$495,517
3.06	Gas strips	m	15,308	$3	$45,924
3.07	Sand blinding	m²	123,879	$25	$3,096,980
3.08	1.5mm HDPE liner	m²	123,879	$25	$3,096,980
3.09	Anchor trench	m	1,474	$125	$184,250
3.10	Stripping top soil to stockpile to sell, give away or disperse	m³	37,164	$10	$371,638
3.11	Stripping topsoil to stockpile and reuse	m³	9,643	$7	$67,499
3.12	Topsoil and regrassing the outer slopes	m²	32,142	$15	$482,136
				Sub Total	$8,666,316
4.0	**Outlet works to water races**				
4.01	DN 750 outlet pipe	m	30	$1,100	$33,000
4.02	DN 750 outlet structure	ea	3	$3,300	$9,900
4.03	DN 750 valve and manhole	ea	3	$9,882	$29,646
				Sub Total	$72,546
5.0	**Outlet Works to Waingawa Industrial Estate**				
5.01	Reticulation (provided by CDC)	LS	1	$1,666,667	$1,666,667
				Sub Total	$1,666,667
6.0	**Electrical and Control**				
6.01	Electrical and Control	LS	1	$750,000	$750,000
				Sub Total	$750,000
Professional Sevices					
Professional Sevices		%	15	$12,853,291	$1,927,994
				Sub Total	$1,927,994
Contingency					
Contingency		%	50	$14,781,285	$7,390,642
				Sub Total	$7,390,642
Cost Estimate (Class 4 -30%/+50%)				**Total**	**$22,171,927**

Gravel Extraction Costs					
3.01	Gravel Extraction	m³	308,653	$15	$4,475,473
3.02	Gravel Processing	m³	308,653	$20.70	$6,389,124
3.03	Gravel Storage	m³	308,653	$2	$617,307
				Sub Total	$11,481,904
Gravel Sale Revenue		m³	308,653	-$43	-$13,272,093
Gravel Sales Profit					-$1,790,189
Profit per unit sold			308,653		-$6

Cost Estimate

Waingawa Water Storage - 1,000,000 m³ Lagoon Storage

ITEM	DESCRIPTION	UNIT	QTY	Rate	Amount
1.0	**Preliminary and General**				
1.01	Preliminary and General	%	15	$19,041,907	$2,856,286
				Sub Total	$2,856,286
2.0	**Inlet Works**				
2.01	DN 525 intake pipe	m	10	$874	$8,742
2.02	DN 525 intake structure	ea	1	$2,622	$2,622
2.03	DN 525 valve and manhole	ea	1	$9,882	$9,882
				Sub Total	$21,246
3.0	**Storage Lagoon**				
3.01	Cut to Fill	m^3	10,677	$10	$106,769
3.02	Underdrains	m	21,125	$70	$1,478,750
3.03	Geotextile	m^2	240,230	$4	$960,919
3.04	Gas strips	m	436	$3	$1,309
3.05	Sand blinding	m^2	240,230	$25	$6,005,746
3.06	1.5mm HDPE liner	m^2	240,230	$25	$6,005,746
3.07	Anchor trench	m	2,050	$125	$256,250
3.08	Stripping top soil to stockpile to sell, give away or disperse	m^3	72,069	$10	$720,689
3.09	Stripping topsoil to stockpile and reuse	m^3	17,461	$7	$122,226
3.10	Topsoil and regrassing the outer slopes	m^2	58,203	$15	$873,045
				Sub Total	$16,531,448
4.0	**Outlet works to water races**				
4.01	DN 750 outlet pipe	m	30	$1,100	$33,000
4.02	DN 750 outlet structure	ea	3	$3,300	$9,900
4.03	DN 750 valve and manhole	ea	3	$9,882	$29,646
				Sub Total	$72,546
5.0	**Outlet Works to Waingawa Industrial Estate**				
5.01	Reticulation (provided by CDC)	LS	1	$1,666,667	$1,666,667
				Sub Total	$1,666,667
6.0	**Electrical and Control**				
6.01	Electrical and Control	LS	1	$750,000	$750,000
				Sub Total	$750,000
Professional Sevices					
Professional Sevices		%	15	$21,898,194	$3,284,729
				Sub Total	$3,284,729
Contingency					
Contingency		%	50	$25,182,923	$12,591,461
				Sub Total	$12,591,461
Cost Estimate (Class 4 -30%/+50%)				**Total**	**$37,774,384**
Gravel Extraction Costs					
3.01	Gravel Extraction	m^3	619,173	$15	$8,978,013
3.02	Gravel Processing	m^3	619,173	$21	$12,816,888
3.03	Gravel Storage	m	619,173	$2	$1,238,347
				Sub Total	$23,033,248
Gravel Sale Revenue		m^3	619,173	-$43	-$26,624,453
Gravel Sales Profit					-$3,591,205
Profit per unit sold			619173.33		-$6

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Level 1, 143 Durham Street
Tauranga 3110
PO Box 13362, Tauranga 3141
+64 7 218 1220

Auckland
OB Studios, Suite 11
106 Saint Georges Bay Road, Parnell
Auckland 1052
+64 9 320 1369

Wellington
Level 9, 187 Featherston Street
Wellington 6011
+64 4 595 4708

Lifestyle
Valuation Report

247 Norfolk Road,
Waingawa, Carterton 5791

Prepared By Registered Valuer:
Paul Leogreen

Effective Date:	Report Issue Date:
31 July 2025	**18 August 2025**

Client:
s7(2)(a) on behalf of s7(2)(a) (and the Carterton District Council)

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- *Record of Title*

Version Control

Version 1	Released: 18/08/2025	Released to:	Client: s7(2)(a) on behalf of s7(2)(a) (and the Carterton District Council)	

1. Valuation Summary

1.1	**Instructions**	We refer to emailed instructions received from s7(2)(a) (on behalf of s7(2)(a)) together with agreed "Scope of Works" for Valuation Services dated 28 July 2025. We have been instructed to assess **"Market Value"** (NZD) "As at Date of Inspection" for proposed sale purposes to the Carterton District Council in accordance with International Valuation Standards effective 31 January 2025 (IVS), the current NZIV Guidance Papers and the Residential Valuation Standing Instructions (Version 1.3). We confirm that we have inspected the subject property and have made suitable investigations. This valuation assumes the property to be acquired on a "Willing Buyer – Willing Seller" basis and not subject to a Public Works Act acquisition.
1.2	**Property Address**	247 Norfolk Road, Waingawa, Carterton 5791
1.3	**Type of Property**	A freehold "Primary Production" zoned site.
1.4	**Brief Description**	A 42.6400 ha "Rural – Primary Production" zoned pastoral block situated in Waingawa, Carterton, to the south western periphery of Masterton. The site itself is a regular shaped land parcel, set back from Norfolk Road frontage with access via a long exclusive use driveway. The block is essentially flat and level at formed road height with current use as a Deer farm. The property has an approved resource consent to subdivide same into a 12 Lot lifestyle development. (2 Lots @ 1 ha. and 10 Lots @ 4 ha. (more or less)). While no works have been completed to undertake this development, consent for same will reflect the 'Highest and Best' use of the property, and an "as is" market value will be assessed on this basis.
1.5	**Client**	s7(2)(a) on behalf of s7(2)(a) (and the Carterton District Council)
1.6	**Date of Inspection**	31 July 2025
1.7	**Property Risk Profile**	As at the date of inspection the subject property has average overall saleability.
1.8	**Valuation Approaches**	Market Approach and Hypothetical Subdivision.
1.9	**Valuation**	

Valuation ("As at Date of Inspection"):

$2,750,000

(Two Million Seven Hundred and Fifty Thousand Dollars)

Inclusive of chattels and GST (if any) and subject to Special Conditions contained in this report

1.10 Report Copyright

This valuation is subject to the terms of J P Morgan and Associates Limited Scope of Works and assumptions within the report. The report has been prepared for the private and confidential use of the above named intended users and no other person (s) or entity/entities. It cannot be reproduced in whole or in part or relied upon for any other intended use or by any party/entity other than s7(2)(a) on behalf of s7(2)(a) (and the Carterton District Council) without the express written authority of J P Morgan and Associates Limited. J P Morgan and Associates Limited accepts no responsibility nor liability to any other party/parties relying on this report. Any such reliance is entirely at that party's own risk.

Any request to rely upon this report (for any reason whatsoever) by any person/party/entity other than s7(2)(a) on behalf of s7(2)(a) (and the Carterton District Council), must be made in writing to J P Morgan and Associates Limited. A fee will apply to any new Client.

Our warning is registered here, that any party, other than those specifically named in this report should obtain their own valuation. (see General Valuation Policies to rear of report).

1.11 Estimated Marketing Period

The subject property is considered to have average overall saleability. With reference to current property statistics we consider a marketing period of two to four months as at date of valuation to be fair for the subject property assuming it is priced appropriately and no reasonably unforeseeable market conditions occur over this period. We note this marketing period is a guide only and no liability is held by the Registered Valuer should the subject property fail to sell within this period.

1.12 Reporting Valuer

The valuation report has been prepared by Paul Bernard Leogreen, a Registered Valuer and Associate of the New Zealand Institute of Valuers. Mr Leogreen holds a current Practicing Certificate and has valuation experience within the Palmerston North and surrounding regional markets assessing residential, lifestyle and commercial property.

We confirm Mr Leogreen has physically inspected the subject property and has no direct or indirect pecuniary interest in the property being valued and is independent of the instructing party, vendor, purchaser, or agents beyond existing brief. The value assessed herein reflects the considered opinion of the Registered Valuer who is the Primary Valuer and has authored this report.

1.13 Insurance Cover

We certify that JP Morgan & Associates Limited (trading as Morgans Property Advisors) holds current professional indemnity and public liability insurance and that the reporting Registered Valuer is covered by this policy.

1.14 Valuation Approaches

Our assessment of Market Value has considered the following approaches:

Market Approach – Provides an indication of value by comparing the subject property with comparable (similar) property sale for which sale information is available. Subjective adjustments are made to comparable properties as a means of assessing Market Value for the subject property. The Comparable Transactions Method is the primary method used within the Market Approach.

Block Value Method - that interprets the evidence of recent market sales transactions of comparable properties in terms of the characteristics of the subject property being valued to derive a market value.

Hypothetical Subdivision Method – that assesses a gross realisable value of a proposed subdivision, then deducting GST, selling and legal costs, profit and risk margin, together with development and holding costs to arrive at a "Residual Land Value".

In determining the Market Value of the subject property we have considered (amongst others) the following factors:

- Location
- Recent sales for similar property
- Value level and likely buyer profile
- Current market conditions
- Bank lending conditions (i.e. interest rates)

In assessing our values consideration has been given to not only the historical sales evidence at our disposal but also to anecdotal evidence to determine where the market may have settled on the effective date of valuation.

1.15 Basis of Value:

Market Value – "Market Value is the estimated amount for which an asset or liability should exchange on the date of valuation between a willing buyer and a willing seller in an arm's-length transaction after proper marketing wherein the parties had each acted knowledgeably, prudently, and without compulsion."

1.16 Valuation Assessment:

Market Value (NZD), including chattels and GST, "As at Date of Inspection" and subject to the Special Conditions and Critical Assumptions can be apportioned as follows:

Improvements	$ 50,000
Land	$2,700,000
Market Value (inclusive of GST, if any)	**$2,750,000**

Note: *Market value is defined within IVS as being "the estimated amount for which an asset or liability should exchange on the valuation date between a willing buyer and a willing seller in an arm's length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion".*

1.17 Risk Analysis

Risk Type	Low	Low/Med	Medium	Med/High	High
Property Risk					
Location/Neighbourhood					
Land (incl. planning/title)					
Environmental Issues					
Improvements					
Market Risk					
Reduce Value (next 2-3 yrs)					
Market Volatility					
Local Economy Impact					
Market Segment Conditions					

Note: *This is a simplified risk analysis providing our opinion of the subject property as at the date of valuation, and is not a technical analysis. The risk assessment is relevant to the prevailing market conditions as at the date of valuation and is based upon the many factors that impact the property market. The risk analysis forms part of the full valuation report, however must not be relied upon in isolation.*

1.18 Risk Analysis Comment

Property Risk	
Location/Neighbourhood	N/A.
Land (incl. planning/title)	N/A.
Environmental Issues	An open stream forming part of the Carterton Water Race runs along the eastern boundary with a small 'ford' at end of access on to the property proper.
Improvements	N/A.
Market Risk	
Reduce Value (next 2-3 yrs)	Continued softening of labour market.
Market Volatility	The market appears to have 'stabilised' and values 'plateaued' in 2025, although while property interest has increased, this has not translated into increased property values. Some resistance for land transactions with cost of construction a deterrent.
Local Economy Impact	N/A.
Market Segment Conditions	Development blocks have a high associated cost to complete which inherently raises their risk. As complete, with separate titles, there are currently a large number of lifestyle blocks on the market as regulatory change will make these types of rural subdivisions more difficult in the future. This has resulted in a current 'glut' as land owners have taken the opportunity to do so. This supply will most probably tighten in future years.

1.19 Assumptions and Report Limitations

1. This valuation is current as at date of valuation only. The value assessed herein may change significantly and unexpectedly over a relatively short period of time (including as a result that the valuer could not reasonably have been aware of as at date of valuation). We do not accept responsibility or liability for any losses arising from such subsequent changes in value. Given the valuation uncertainty noted, we recommend that the user(s) of this report review this valuation periodically.

2. This valuation is subject to and conditional upon the property complying with the terms and conditions of all relevant legislation and the requirements of Territorial Authorities, except as detailed herein.

3. The report has been prepared for valuation purposes only and is not intended to be a structural geotechnical or environmental survey. We have carried out an inspection of exposed and readily accessible areas. Any areas not able to be accessed/or are restricted, are assumed to be in a similar condition to those areas accessed. (if they subsequently prove not to be, we reserve the right to reassess our market value accordingly). No enquiries in respect of any property or of any improvements erected thereon have been made or any sign of timber infestation, asbestos or other defect whether latent, patent or structural. We recommend that our client/readers of the report make their own enquiries.

4. This report contains assumptions believed to be fair and reasonable at the date of valuation. In the event that assumptions made based on information relied upon is later proven incorrect, or known by the recipient to be incorrect at the date of reporting, JP Morgans & Associates reserves the right to amend the report if required, and if necessary, reassess value.

5. Our valuation report and determination is for the sole use of the addressee's stated on page 2 and assuming no sudden market changes or variations may be relied on for a period of not more than 60 days from date of inspection.

6. The valuation assumes vacant possession unless otherwise stated.

7. The property value as assessed assumes development as per Resource Consent and that Development Costs estimated are a reasonable reflection of actual costs. Should development costs vary in the case of the development proceeding, we reserve the right to re-assess market value accordingly. This development is considered to reflect the "highest and best" use of the property.

8. The existing sheds on the property are retained and will be included with proposed Lots 3 and 6. An improvement allowance for same is incorporated.

9. The site and/or building/s are free of contamination and/or any stigma (associated or otherwise) that would restrict existing or alternate use and/or impact on property value.

No other obvious property risks noted.

1.20 NZIV Valuation Standards

The following Valuation Standards have been adhered to:

- International Valuation Standards (effective 31 January 2025)

  IVS100 - Valuation Framework
  IVS101 - Scope of Works
  IVS102 - Bases of Value
  IVS103 - Valuation Approaches
  IVS104 - Data and Inputs
  IVS105 - Valuation Models
  IVS106 - Documentation and Reporting
  IVS400 - Real Property Interests (and Residential Valuation Standing Instructions V1.3)
  IVS 410 - Development Property

- Guidance Papers for Valuers and Property Professionals

  ANZPGP 201 - Disclaimer Clauses and Qualification Statements
  ANZPGP 206 - Due Diligence
  ANZVGP 110 - Considerations when Forming an Opinion of Value When There Is A Shortage of Market Transactions
  ANZVGP 111 - Valuation Procedures – Real Property
  ANZVGP 112 - Valuations for Mortgage and Loan Security Purposes
  NZVGP 501 - Goods and Services Tax (GST) in Property

- NZIV

  Code of Ethics
  Rules of Conduct

2. Legal and Statutory Details

2.1 Legal Details:

An estate in fee simple, described as Lot 1 on Deposited Plan 306123, Record of Title Identifier 24064, Wellington Registry.

2.2 Ownership Tenure:

Freehold: *Freehold or "fee simple" ownership is the most common ownership type in New Zealand. Freehold ownership means that you own the land and improvements outright. You are also solely responsible for the maintenance and upkeep of your property, and the property taxes (i.e. rates) associated with it.*

2.3 Owner:

s7(2)(a)

2.4 Interests:

Appurtenant hereto is a water supply right and additional rights created by Transfer 062838.2 (affects part formerly in CT WN420/173).

5181363.2 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 25.3.2002 at 1:50 pm.

We do not consider the above interests to have any material impact on the Market Value of the subject property.

No other interests registered on title that may have a material impact on underlying property value (See search copy attached).

2.5 Site Area:

42.6400 ha (more or less).

Source: *All statutory details above from Land Information New Zealand*

2.6 Rateable Value: (as at 1/9/23)

Improvements	$ 220,000
Land	$1,960,000
Capital Value	$2,180,000

Note: *The Rateable Valuation is assessed for rating purposes only. The value is normally derived from mass appraisal, computer generated methods and excludes items such as plant and chattels. In many cases the subject property has not been inspected in assessing this value.*

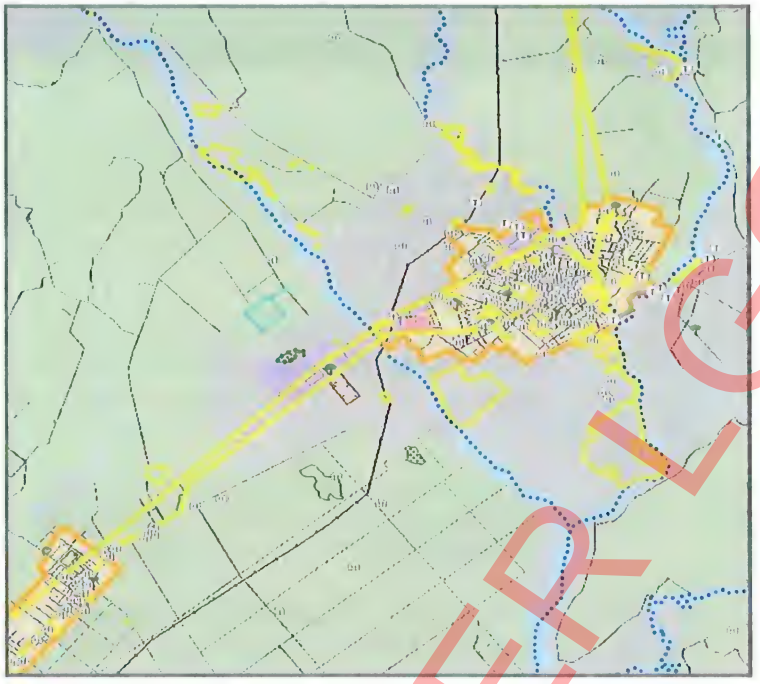
2.7 2025/2026 Rates:

$7,450.60 per annum (incl. GST) (Carterton District Council).

Source: *Rateable Value and Rates Information from relevant Territorial and Regional Authorities*

2.8 Resource Management:

Zoned 'Rural - Primary Production' under Wairarapa District Council's Operative District Plan. As per Resource Management Act 1991, residential dwellings are a 'permitted activity'.



The zoning permits subdivision of land parcels to smaller lifestyle blocks as a 'Restricted Discretionary Activity'. The minimum Lot Area as described in the Wairarapa Combined District Plan is 4 ha. The two smaller blocks on the consented plan at 1 ha. are a variation from same, with balance being 4 ha. (or close thereto).

2.9 Zoning Effect: No adverse effects. The land as a consented 12 Lot lifestyle development reflects the 'highest and best' use of the property.

Note: *Light yellow shaded area indicates "Residential" zone under PNCC Operative District Plan.*

3. Land and Location

3.1 Location:

Located in Waingawa, to the northern periphery of the Carterton District of the Wairarapa region. This area is known for its rural lifestyle properties and is approximately 10.3 km north of Carterton town centre. The property is closer to Masterton, some 3.9 kilometres distant.

3.2 Neighbourhood:

Surrounding properties in the immediate locality comprise a mix of lifestyle blocks and farmland. Waingawa (adjoining State Highway 2) itself, some 2.4 kilometres distant, forms an 'Industrial' precinct. Average resale attributes by local standards.

3.3 Site Description:

A regular shaped pastoral land block that is almost 'square' in shaped, set back from Norfolk Road frontage via an approximate 6.6 metre wide access that runs some 400 metres in length to the main land parcel.

The property is essentially flat and level in contour and has part of the Carterton Water Race adjoining and running the length of the eastern boundary. This is an open stream/water way with a small 'ford' across the access to the main block.

Some stone has been used from the property and may potentially hold some economic benefit. As no reports or consents are available regarding this, it has been excluded from our valuation analysis.

The property has a width of some 600 metres and an average depth of some 705 metres.

The property is currently subdivided into some 12 paddocks of similar size with a central 'run'. The property is deer fenced and is utilised as a deer farm.

Improvements include a Deer Shed, an implement shed and a hay shed. These improvements are assumed to be retained and form part of proposed Lots 3 and 6.

3.4 Services:

Water supply and sewage disposal are contained onsite.

Land Survey

We have made no survey of the property and its boundaries and assume no responsibility in connection with such matters. Unless otherwise stated it is assumed that all improvements lie within the Title boundaries. Any sketch, plan or map in this report is included to assist the reader in visualising the property and should not be relied upon as being definitive.

Unless otherwise stated, we have not undertaken investigations or been supplied with geotechnical reports with respect to the nature of the underlying land. Unless otherwise stated, we have assumed the land to be firm and suitable ground for the existing and/or potential development without the need for additional expensive foundation and retaining work or drainage systems.

Contamination

We are not experts in issues of site contamination and unless otherwise stated our valuation and report assume that the land and buildings are unaffected by harmful contaminants or noxious materials which may impact on value. Verification that the property is free from contamination and has not been affected by noxious materials should be obtained from a suitable qualified environmental expert.

The following images give an aerial view of the subject property, and an indication to the location within Carterton:

Source: Relevant Territorial Authority GIS Property Data Maps and Google Maps

3.5 Earthquake Hazard

The property does not have any known seismic faults running through the same, with the main fault lines running to south of same as shown below.

3.6 Flood Zones

The property does not have any known flood or ponding zones running through the same, as shown in the map below.

4. Consented Subdivision

We have been provided the consented Scheme Plan as shown below:

The Carterton District Council have approved the above 12 Lot lifestyle subdivision (Application No: 230049) on the subject property dated 24 August 2023.

The Consent requires the development to be completed to comply with the Carterton District Council's Land Development and Subdivision Infrastructure Guide with works completed by appropriate and approved qualified persons.

That Financial Contributions be paid by the consent holder with the total contributions for Reserve and Roading is capped at $7,500 plus GST per Lot. (for Lots 1 – 11)

The consent expires in 5 years from date of decision. (23 August 2028)

The subdivision includes 12 Lots, two Lots at 1 ha. and the balance 10 Lots at circa 4 ha.

All Lots will be regular in shape and assumed to have conventional wire and batten boundary fencing to same.

Access will be via a formed compacted metal right of way, with power/data provided to each Lot.

Lot 6 will have the existing hay shed on same which is considered a functional improvement to the Lot.

Lot 3 will have the deer shed and implement shed on same. These will provide certain functional benefit to same.

Lot	Sq M	Ha.
1	10000	1.0000
2	10000	1.0000
3	41000	4.1000
4	40000	4.0000
5	42000	4.2000
6	41000	4.1000
7	40000	4.0000
8	40000	4.0000
9	42000	4.2000
10	40000	4.0000
11	40000	4.0000
12	40000	4.0000

5. Environmental, Social and Governance Factors (ESG)

5.1 Overview:

ESG is a framework used to assess the sustainability and ethical impact on society and the environment. These factors may have an impact on the nature of a property and its use and, therefore, may materially impact on the value. Examples of these factors include, but are not limited to, the following:

Environmental	Social	Governance
- Air and water pollution	- Community relations	- Audit committee structure
- Biodiversity	- Conflicts	- Board diversity and structure
- Climate change	- Customer satisfaction	- Bribery and corruption
- Clean water and sanitation	- Data protection and privacy	- Donations
- Carbon and other gas emissions	- Human rights	- Institutional strength

Where appropriate, we have considered the ESG factors and regulatory environment in our assessment of value. We note that these factors are often intangible, or can be difficult to measure or quantify, particularly in regard to the Social and Governance framework. Our analysis of comparable market sales does, however, reflect the impact these factors may have on market conditions as at the date of valuation.

Certain commentary refers to these matters throughout the report.

6. Photos

Note: *Morgans Property Advisors is not responsible for the condition and/or tidiness of the subject property as represented in the photos attached to the report. They provide a fair representation of the property as presented as at date of inspection.*

7. Market Commentary

The Carterton lifestyle property market in 2024 and 2025 has remained relatively resilient, retaining property values despite experiencing challenging broader national and global economic environment and interest rate movements. The average capital value of improved lifestyle properties in Carterton reached $879,000 by September 2023, an 18.9% increase since 2020, with land values for lifestyle blocks averaging $400,000—a 13.1% rise in the same period.

Most recently, market data shows the average Carterton property value at $621,334 as of March 2025, with a minor decline of 1.3% over the previous year, although this decline is less than the national average. On-the-ground sentiment appears stable, with agents observing a modest but positive outlook for 2025 as interest rates have reduced and buyer confidence begins to return. This is tempered by the continued 'cost of living' crisis and certain businesses under financial pressure.

Demand for lifestyle properties across New Zealand, including Carterton, strengthened in 2024, with national lifestyle sales volume up 8.5% for the year to November 2024. Median prices for lifestyle blocks also increased, notably in many regions despite a slight seasonal slowdown and longer average days to sell—now approximately 69 days nationally for such properties. Local buyers and out-of-town purchasers remain active, drawn by Carterton's mix of affordability (compared to Wellington city), rural amenities, and connectivity to key transport routes.

The lifestyle market typically sees listings from $650,000 to well over $2 million, reflecting options for both entry-level and premium buyers. Market experts broadly predict a rise in property values during 2025 if interest rates stabilise or ease further, with increased buyer activity expected as the year progresses. This outlook suggests that, while the rapid price escalation of previous years has slowed, Carterton's lifestyle sector retains strong appeal, driven by the enduring desire for space, community, and country living within commuting distance of Wellington. Again these comments are tempered by the above cost of living conditions. General market commentary which is often led by real estate agents who benefit by positively may be considered more optimistic than actual conditions experienced.

Lifestyle land values have been reasonably stable, although sale numbers have reduced as the cost to build, together with associated site works and reporting have increased the cost to develop the same.

Economic Factors

Annual inflation increased slightly to 2.7% at the latest announcement on 21 July, up from 2.5% in the year to March 2025, this followed seven consecutive drops from 7.2% in December 2022. Inflation remains within the Reserve Banks 'targeted band' of 1% - 3%.

Source: *Stats NZ – Tatauranga Aotearoa*

In its attempt to curb annual inflation, the Reserve Bank aggressively increased the Official Cash Rate between October 2021 and May 2023, the last increase being 0.25% to 5.50% on 24 May 2023. This marked twelve consecutive increases from October 2021 when the OCR was at a record low of 0.25%. With inflation now within the Reserve Bank's 'targeted band', the OCR stabilised at 3.25% as at the most recent announcement on 9 July 2025. This is the same level as at the 28 May announcement and follows successive drop in OCR since August 2024.. The Reserve Bank has commented that if economic conditions continue to evolve as projected, further OCR cuts may be made throughout 2025.

The three months to March 2025 showed a small increase in GDP at 0.8% following a 0.7% increase in the December 2024 quarter.

Source: *Reserve Bank of New Zealand and Stats NZ Websites.*

8. Sales Evidence – Vacant Land Sales

The following vacant lifestyle block sales have been included to provide 'as complete' values for the 21 Lot development. This forms part of our valuation analysis herein. Location and land size variations have been considered where required.

841 Chester Road	Mar-25 $300,000	**Land Area:** 1.5480 ha. **Equates to:** $19.35/sq m **Comment:** A long narrow land parcel situated further distant from Masterton/Carterton. Inferior location and land shape.
365 Haringa Road	Mar-24 $300,000	**Land Area:** 1.2360 ha. **Equates to:** $24.27/sq m **Comment:** A diamond shaped land parcel. Inferior location.
691 Cromwell Road	Mar-24 $390,000	**Land Area:** 1.1804 ha. **Equates to:** $33.04/sq m **Comment:** Irregular shape parcel, further distant from Masterton.
593 East Taratahi Road	Oct-24 $400,000	**Land Area:** 1.1004 ha. **Equates to:** $37.26/sq m **Comment:** A regular shaped land parcel, further distant from Masterton in lifestyle subdivision.
16 Taratahi Park Lane	Sep-24 $375,000	**Land Area:** 2.6117 ha. **Equates to:** $14.36/sq m **Comment:** Regular shape, slightly more distant from Masterton.
82 Connollys Line	Feb-25 $375,000	**Land Area:** 4.4000 ha. **Equates to:** $8.52/sq m **Comment:** Regular shape, just subdivided on Carterton periphery.
104 Jordon Road	May-25 $476,000	**Land Area:** 3.0151 ha. **Equates to:** $15.79/sq m **Comment:** Regular shape in lifestyle subdivision close to subject property.
183 Hughes Line	May-25 $485,000	**Land Area:** 4.6945 ha. **Equates to:** $10.33/sq m **Comment:** Irregular shape, slightly more distant from Masterton.
126-130 Norfolk Road	Mar-25 $715,000	**Land Area:** 7.740 ha. **Equates to:** $9.24/sq m **Comment:** Two titles creating a long narrow land parcel between Norfolk Road and the river. Close to subject property.
258 Norfolk Road	Apr-25 $800,000	**Land Area:** 10.7960 ha. **Equates to:** $7.41/sq m **Comment:** Long narrow land parcel set back from Norfolk Road frontage, back to river. Close to subject property.

Market Factors:

We note the following market influences that are impacting property values and particularly demand for residential sections:

- Interest rates have risen significantly. The average one year fixed rate was 3.50% in December 2021. As at August 2025 the average one year fixed rate is now circa 4.89% (Interest.co.nz). This has resulted in:
  - Higher interest rates impacting borrower affordability (although interest rates are now decreasing).

- Trading banks implementing more regulated debt to equity & income ratios, which have reduced the number of purchasers in the market (these appear to be easing).
- Many banks not undertaking lending to clients with less than 20% equity (again easing is now occurring).

- Build costs rose significantly over a relatively short period of time from 2021-2023. According to data released by QV, building costs have increased at an average rate of 44% over the last four years. However, the rate of building cost inflation has slowed markedly in recent years.
- Unemployment is increasing.

Comment:

The subject property is situated in an established lifestyle/rural locality in close proximity to Masterton. There have been limited vacant land sales occurring. Subsequently, we have considered the above vacant lifestyle land sales within a wider radius. We have made an allowance for locational variance and changes in market conditions in assessing a land value for the subject property.

We note that there was some 25 lifestyle blocks on the market in the Carterton district and some 15 blocks in the Masterton district at time of writing.

Property values have decreased. The average Masterton residential house price in March 2022 peaked at $634,000. The median house price for March 2025 was $509,000.

- The number of listings over this period has risen as the time to sell increased and demand for property decreased. While property values appear to have plateaued, there remains limited upward property value movement pressures and the market remains a "buyers' market".
- Cost of construction and compliance costs have negated the benefit of building when compared to purchasing existing, so land sales have reduced. This is expected to be a shorter term issue as lifestyle subdivisions will become more difficult to consent as productive land is protected.

Above comparables represent sales of vacant lifestyle sections in the Carterton and Masterton Districts. While some variation in land size and aspect, they do provide a reasonable guide as to market value for the proposed 12 Lots in the consented lifestyle development. Net land rates equates to **$7.71/sq m - $37.26/sq m** depending on land size and shape, location, aspect and age of sale.

From the above, we assess individual 'as complete' market values for the Consented 12 Lot Lifestyle subdivision. We have adopted a net land rate in the range of $11.00/sq m - $40.00/sq m with market values in the range of $390,000 - $500,000.

Lot	Area (sq m)	Area (ha.)	Land Value	Improvements	Total Lot Value	$/sq m
1	10000	1.00	$ 390,000		$ 390,000	$39.00
2	10000	1.00	$ 390,000		$ 390,000	$39.00
3	41000	4.10	$ 470,000	*$ 30,000	$ 500,000	$12.20
4	40000	4.00	$ 465,000		$ 465,000	$11.63
5	42000	4.20	$ 480,000		$ 480,000	$11.43
6	41000	4.10	$ 470,000	*$ 20,000	$ 490,000	$11.95
7	40000	4.00	$ 465,000		$ 465,000	$11.63
8	40000	4.00	$ 460,000		$ 460,000	$11.50
9	42000	4.20	$ 480,000		$ 480,000	$11.43
10	40000	4.00	$ 465,000		$ 465,000	$11.63
11	40000	4.00	$ 465,000		$ 465,000	$11.63
12	40000	4.00	$ 465,000		$ 465,000	$11.63
	Total				**$5,515,000**	

***Note:** Added value of the sheds to the lifestyle blocks reflect the lower functionality of same to the smaller individual blocks as an outbuilding and reflects a lower value than that which may be expected as a functional deer farm.

Further to the above and in support of a Block Value analysis, we have considered the following rural blocks in the locality.

Loop Line, Opaki 	Feb-24 $2,820,000	**Land Area:** 54.11 ha. **Equates to:** $52,116/ha. **Comment:** An irregular shaped land parcel essentially flat in contour in close proximity to Masterton.
Cross Line, Morrisons Bush 	May-25 $3,125,000	**Total Land Area:** 65.08 ha. **Equates to:** $48,018/ha. **Comment:** Two essentially regular shaped adjoining land blocks comprising 30.68 ha. and 43.4 ha. Slightly further distant from Masterton in an established rural location.
1617a State Highway 2, Tauwharenikau 	Jul-25 $1,800,000	**Total Land Area:** 33.99 ha. **Equates to:** $52,957/ha. **Comment:** An irregular shaped land parcel set back from road frontage further south between Greytown and Featherston.
Petrie,329 Cornwall Road, East Taratahi 	Dec-24 $3,250,000	**Total Land Area:** 63.52 ha. **Equates to:** $51,165/ha. **Comment:** An regular shaped rural grazing block with the river to rear boundary. Essentially flat in contour slightly further distant from Masterton. Property includes a 2002 built three bedroom dwelling.
399 Brooklyn Road, Carrington 	Apr-25 $2,200,000	**Total Land Area:** 33.99 ha. **Equates to:** $64,725/ha. **Comment:** Three separate land parcels separated by road frontages. One parcel includes a 1930's era dwelling with associated outbuildings. Property is essentially flat in contour and would be able to be sold as separate entities. The property is situated close to Carterton.

The above represent sales of rural land blocks used for grazing, finishing or as a 'run off' Certain sales include dwellings thereon. The sales fall in a land value range of $48,018/ha. - $64,725/ha. The land value range reflects the land size, land shape, aspect, contour, location and improvements thereon.

They are considered to provide a fair guide as to the block value of the subject property on an 'as is' basis and excluding the resource consent for the 12 Lot lifestyle subdivision.

From the above, a block land value for the subject property in the range of **$60,000**/ha. - **$65,000**/ha. is considered fair in the current market.

9. Valuation

As part of our Market Value assessment of the subject we have utilised the following valuation methodology:

9.1 Block Value Method

Land	42.6400 ha	@	$60,000/ha.	=	$2,560,000	
		@	$62,500/ha.	=	$2,670,000	
		@	$65,000/ha.	=	$2,770,000	
					Adopt	$2,670,000
					INDICATED MARKET VALUE (EXCLUSIVE OF GST IF ANY)	**$2,670,000**

Note: *Market value is defined within IVS as being "the estimated amount for which an asset or liability should exchange on the valuation date between a willing buyer and a willing seller in an arm's length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion".*

9.2 Hypothetical Subdivision Method

Assumptions:

- The subject property will be developed as per approved Resource Consent and will comprise 12 lots.

  We assume that the lifestyle subdivision will be developed and sold during a two year period.

  Based on our analysis of development cost the hypothetical subdivision herein provides a summarised development cost per Lot at $111,000 each. This is considered to take into consideration all reasonable costs including chip sealed access and right of way, conventional 8 wire/batten fencing, electricity supply and data connections.

- Development costs include a 5% contingency allowance.

- As part of our Hypothetical Subdivision Method we have assessed a Market Value for each of the proposed Lots. This forms part of our Gross Realisation, which as detailed above equates to $5,515,000.

- The Profit & Risk margin is adopted.

Subdivision Proper

Gross Realisation including GST (Lots 1 – 12)			$5,515,000
Less:	Selling Expenses		
	- GST	$719,000	
	- Agents Commission and Marketing	$165,000	
	- Legal Costs	$ 24,000	$ 908,000
	Net Realisation		$4,607,000
Less:	Allowance for Profit & Risk – (10%)		$ 420,000
Outlay			$4,187,000
Less:	- Development Costs – (111,000/Lot)	$1,335,000	
	- *Holding Costs – (0.5 year @ 5.00%)	$ 105,000	
			$1,440,000
			$2,747,000
	INDICATED MARKET VALUE (EXCLUSIVE OF GST IF ANY)		**$2,750,000**

***Note**: Above figures have a rounding component included.*

9.3 Reconciliation

The valuation methodology employed has provided the following values:

Block Value Method	$2,670,000
Hypothetical Subdivision Method	$2,750,000

In the circumstances as the property has a Resource Consent for the 12 Lot Subdivision, most weighting has been placed on the Hypothetical Subdivision Method as it incorporates the added benefit of the consent. The Block Value Method as supported by sales evidence excludes any Resource Consent as associated premium for same.

We therefore adopt Market Value at **$2,750,000 (Two Million Seven Hundred Fifty Thousand Dollars)** which we have apportioned as follows:

Land Value	$2,700,000
Improvements	$ 50,000
Market Value	**$2,750,000**

Note: *Market value is defined within IVS as being "the estimated amount for which an asset or liability should exchange on the valuation date between a willing buyer and a willing seller in an arm's length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion".*

10. Compliance Statement

This Valuation complies with the current Valuation and Property Standards of the Australian Property Institute (API), International Valuation Standards (IVS) effective 31 January 2025 and Residential Valuation Standing Instructions (Version 1.3).

Morgans Property Advisors also confirm that:

- *As a member of NZIV, the valuer is bound by NZIV Code of Ethics*
- *The statements of fact presented in this report are correct to the best of the Valuer's knowledge*
- *The analyses and conclusions are limited only by the reported assumptions and conditions*
- *The valuation was performed in accordance with the NZIV Code of Ethics and the NZIV Valuation Standards*
- *The Valuer and/or JP Morgan & Associates Limited has no interest (financial or otherwise) in the subject property*
- *The Valuer has satisfied professional education requirements*
- *The Valuer has experience in the location and category of the property being valued*
- *The Valuer has made a personal inspection of the property*
- *No-one, except those specified in the report, has provided professional assistance in preparing the report*

General Valuation Policies

This valuation and all valuation services are provided by J P Morgan & Associates Limited (trading as Morgans Property Advisors) solely for the use of s7(2)(a) *on behalf of* s7(2)(a) *and the Carterton District Council). J P Morgan & Associates Limited does not and shall not assume any responsibility or liability for any person/third party other than the client for any reason whatsoever including breach of contract, negligence (including negligent misstatement) or wilful act of itself or others by reason of or arising out of the provision of this valuation or valuation services. Any person, other than the client, who uses or relies on this valuation does so at their own risk. This valuation has been completed for the specific intended use stated in this report. No responsibility is accepted in the event that this report is used for any other use. Written consent is required from J P Morgan & Associates Limited for any other person/third party to rely on this report. We reserve the right to withhold our consent or to review the contents of this report in the event that our consent is sought.*

In preparing this report and unless otherwise stated services to the property have not been tested nor have we researched Local Authority records to ascertain requisitions affecting the property.

No environmental audit has been undertaken but indications are that the property has no apparent detrimental considerations under the Resource Management Act 1991.

This report is relevant as at the date of inspection (or other date specified in this report) and to circumstances prevailing at the time. However, within a changing economic environment, returns on investment and values can be susceptible to variation - sometimes over a relatively short time scale. We therefore strongly recommend that before any action is taken involving acquisition, disposal, borrowing, restructuring, or any other transaction that you consult us.

J P Morgan & Associates Limited has a policy of not contracting out of the provisions of the Consumer Guarantees Act. Accordingly, where there is any conflict between any statement in this report and Consumers Guarantees Act 1993, the latter shall prevail.

Neither the whole nor any part of any valuation report, or any reference to the same may be included in any published document, circular or statement without our written approval as to the form and context in which it may appear. We reserve the right to withhold our consent or to review the contents of this report in the event that our consent is sought.

11. Quality Control

J P Morgan & Associates trading as Morgans Property Advisors have a Quality Management System (QMS) which includes a Valuation Process Quality Control Checklist, which sets out specific procedures to be carried out in the valuation process to ensure each valuation is completed to best standard and in compliance with 2025 International Valuation Standards.

We trust that this report is suitable for intended use. If you have any questions please contact the writer directly.

J P Morgan & Associates Ltd Effective Date: 31 July 2025

Paul Leogreen ANZIV BBS Dip BS
Director | Registered Valuer
M: +64 27 540 8994
E: paul@morgans.co.nz

THE VALUER IS A MEMBER OF
NEW ZEALAND Institute of Valuers

	Prepared by:
Inspection of Property	Paul Leogreen
Valuation Calculations	Paul Leogreen
Authoring of Report	Paul Leogreen

MISSION STATEMENT
"To provide accurate valuation and property advice that is professionally presented on time to maximise the benefit to our clients"

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	**24064**
Land Registration District	**Wellington**
Date Issued	25 March 2002

Prior References
WN39A/386

Estate	Fee Simple
Area	42.6400 hectares more or less
Legal Description	Lot 1 Deposited Plan 306123
Registered Owners	

s7(2)(a)

Interests

Appurtenant hereto is a water supply right and additional rights created by Transfer 062838.2 (affects part formerly in CT WN420/173)

5181363.2 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 25.3.2002 at 1:50 pm