

North DBC

Appendix J – Cost Report

Version 1.0

Document Status

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Revision Status

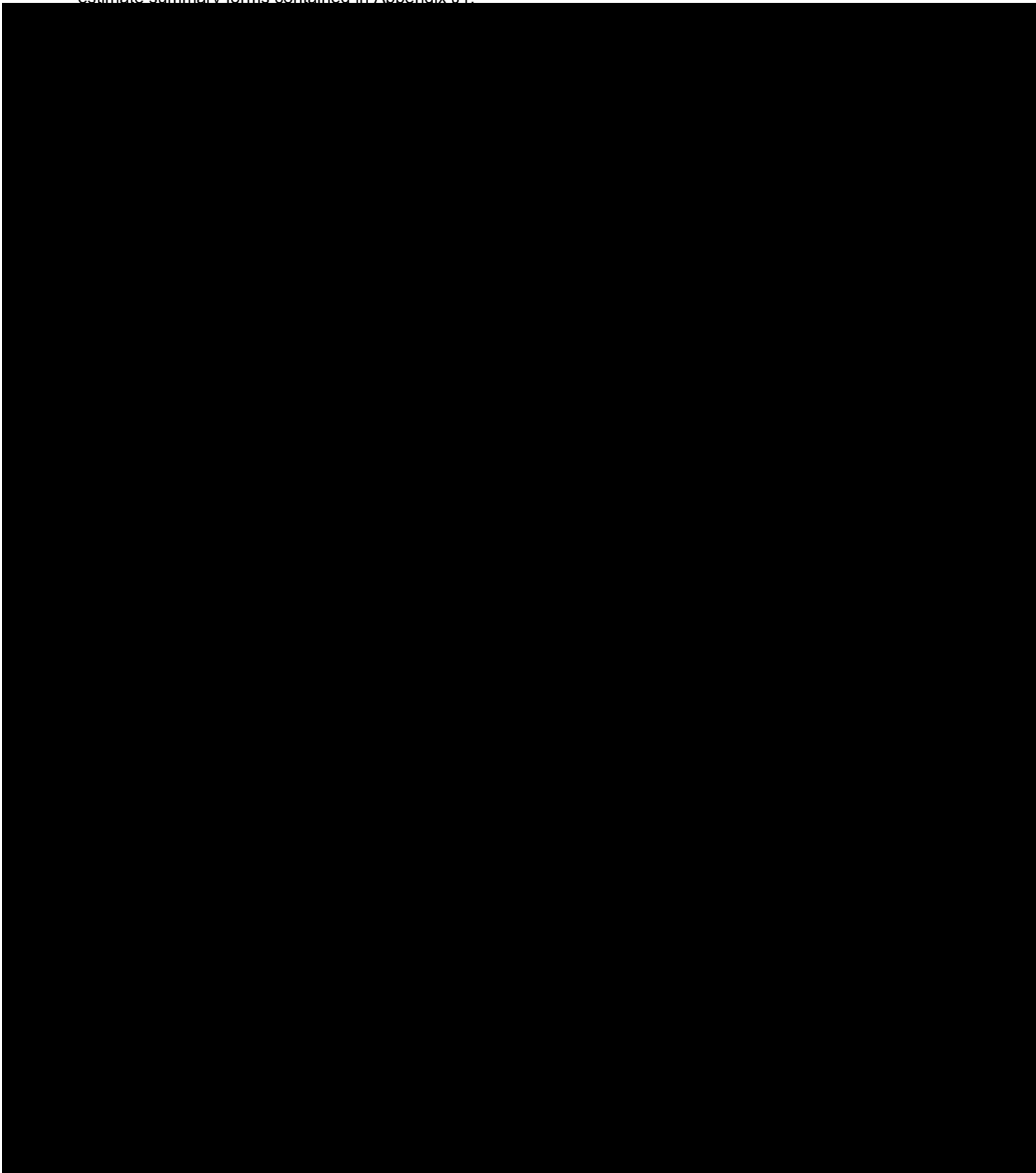
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0.1	28 April 2023	Draft for internal review
1.0	2 May 2023	Issue for submission with detailed business case

Disclaimer

This is a draft document for review by specified persons at Auckland Transport and Waka Kotahi NZ Transport Agency. This draft will subsequently be updated following consideration of the comments from the persons at Auckland Transport and Waka Kotahi NZ Transport Agency. This document is therefore still in a draft form and is subject to change. The document should not be disclosed in response to requests under the Official Information Act 1982 or Local Government Official Information and Meetings Act 1987 without seeking legal advice.

Project Cost Summary

A summary of estimated project costs is provided in Table 1, taking the values contained in the cost estimate summary forms contained in Appendix J1.



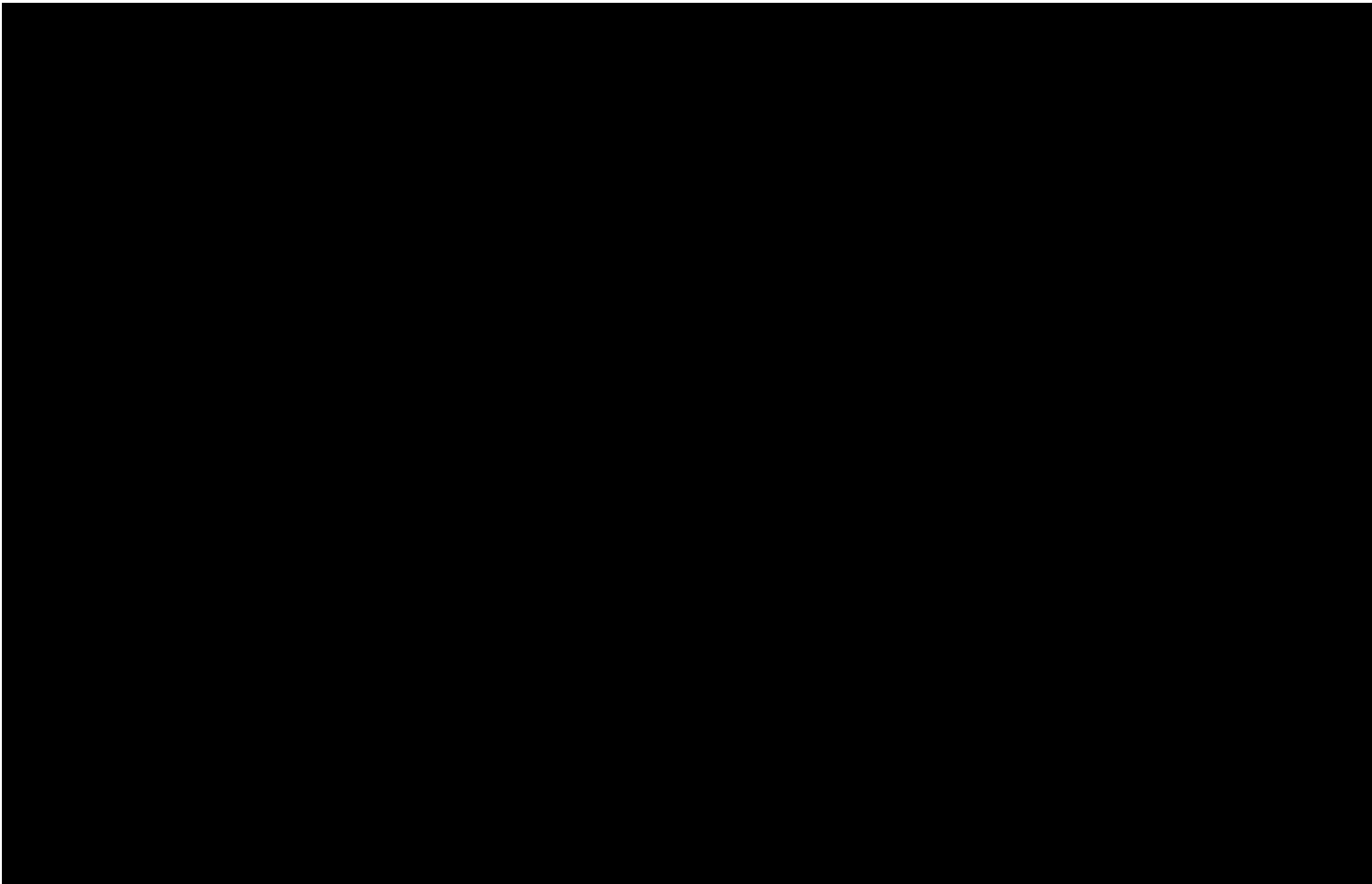


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Appendix J3 – Generic Physical Works Assumptions Schedule

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Acronym/Term	Description
AT	Auckland Transport
CEM	SM014 Cost Evaluation Manual
DBC	Detailed Business Case
NoR	Notice of Requirement
SM014	SM014 Cost Evaluation Manual
WK	Waka Kotahi

1 Introduction

This document forms Appendix J of the North Detailed Business Case and covers cost estimation for the concept designs presented in the design report (Appendix H of the North Detailed Business Case). It should be read in conjunction with the design report and the drawings contained within that document.

The estimates presented within this report provide an indication of costs for future budget forecasting and for inclusion in the economic analysis, covered in Appendix K of the North Detailed Business Case.

A detailed business case estimate (DBE) was prepared for corridors subject to route protection and an indicative business case estimate (IBE) prepared for the non-route protected corridors. The costing of works was based on:

- For the route protected corridors – the Revision A concept design drawing set (refer the design report; Appendix H of the North Detailed Business Case)
- For the non-route protected corridors –high-level design input (refer the design report; Appendix H of the North Detailed Business Case)
- The indicative property cost outlined in Appendix J2 of this report
- The generic physical works assumptions schedule; Appendix J3 of this report

In terms of property costings:

- All route protected corridors will require property acquisition
- The non-route protected corridors do not require property acquisition (assumes that all physical works can be undertaken within existing designations / corridors).

2 Approach to Cost Estimation

2.1. Property

The acquisition cost of the required land forms a significant part of the estimate. Property cost estimates have been prepared by the Auckland Transport team on behalf of Te Tupu Ngātahi Supporting Growth. These cost estimates have been prepared based on the land requirement (full, permanent and temporary) represented by the proposed designation boundaries in the Revision A concept design drawing set (refer the design report; Appendix H of the North Detailed Business Case). The assumptions associated with the property cost estimates are attached in Appendix J2 within this report.

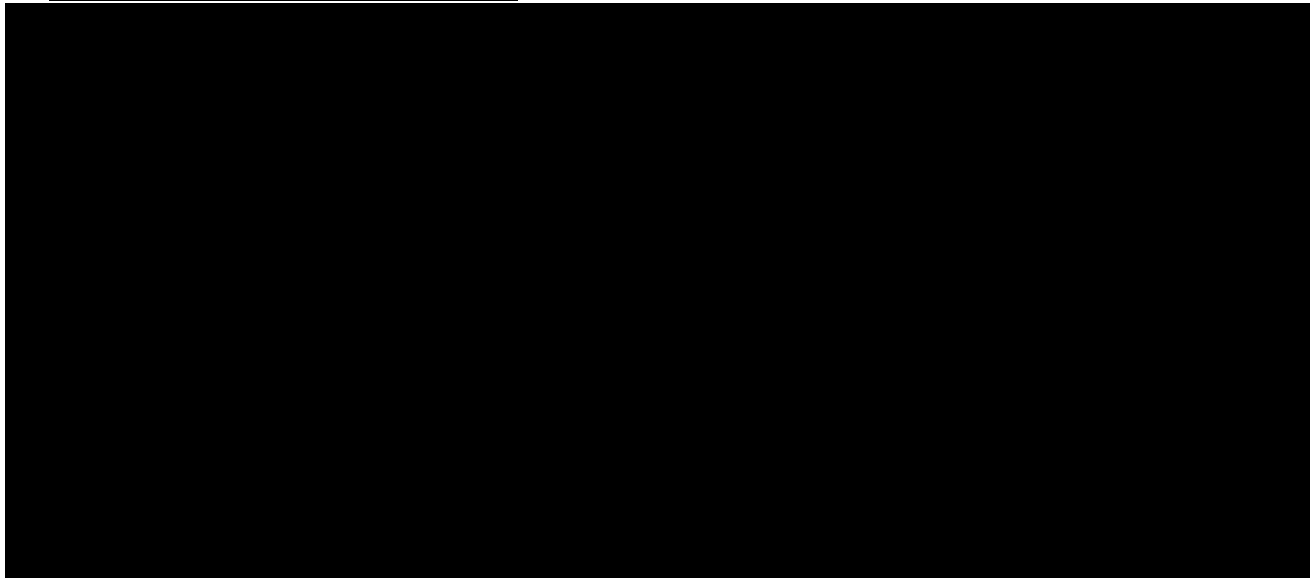
The property costing approach is as follows:

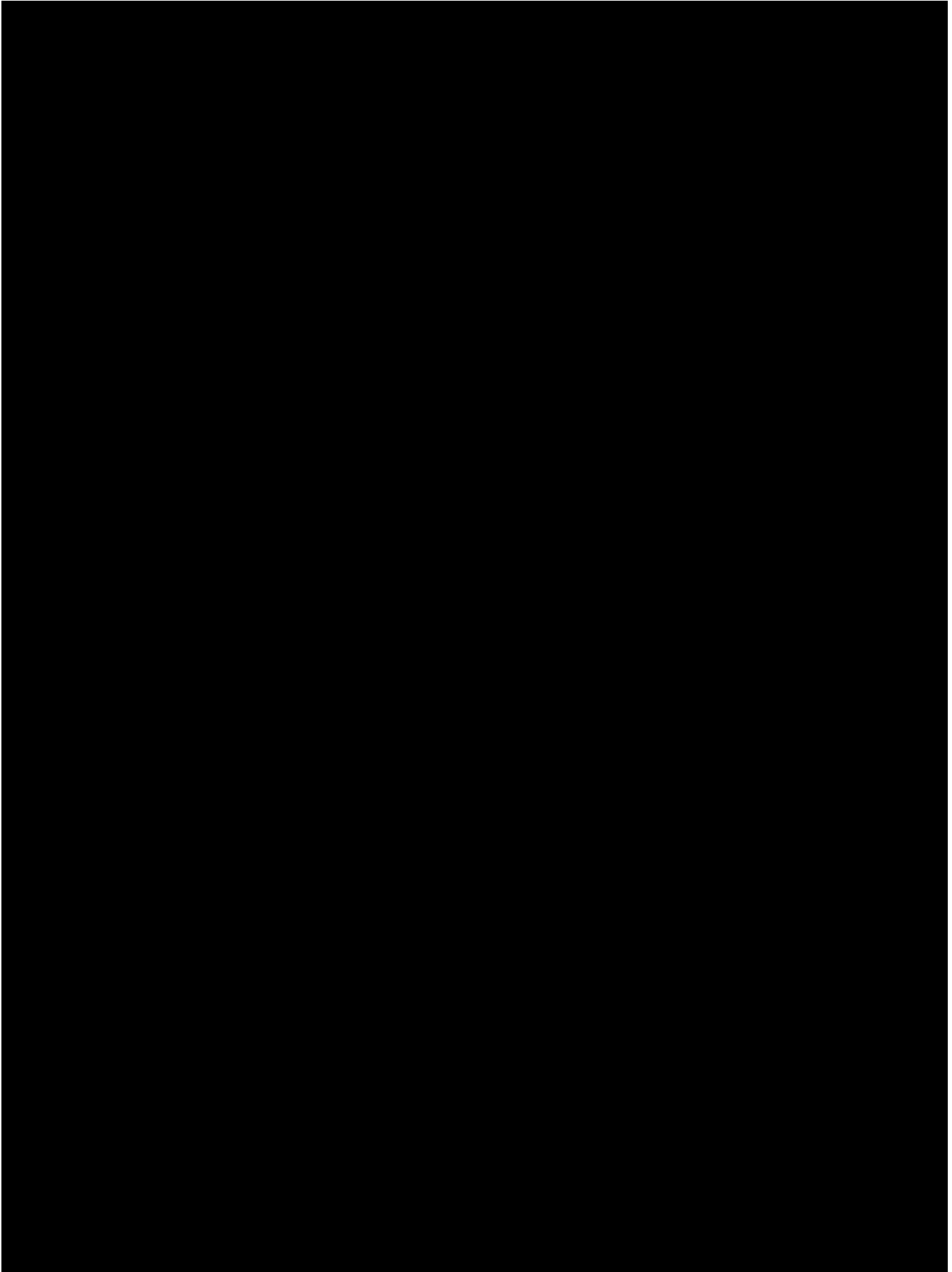
- **Review the proposed alignment** – identify those properties where the proposed project alignment would have a significant impact requiring the acquisition of the full property. These full acquisitions are then costed at the current estimated market value using online resources
- **Obtain independent valuation advice** – consultant North Harbour Valuers was engaged to provide a report with land rates for the Auckland Unitary Plan zones applicable within the subject area
- **Develop an acquisition cost for each property** – develop an acquisition cost (for business case purposes) for the identified property by applying the appropriate land rate to the land required
- **Benchmark** – use the current pricing to inform the validity of the parcel pricing
- **Review** – property pricing reviewed by senior experienced valuation experts

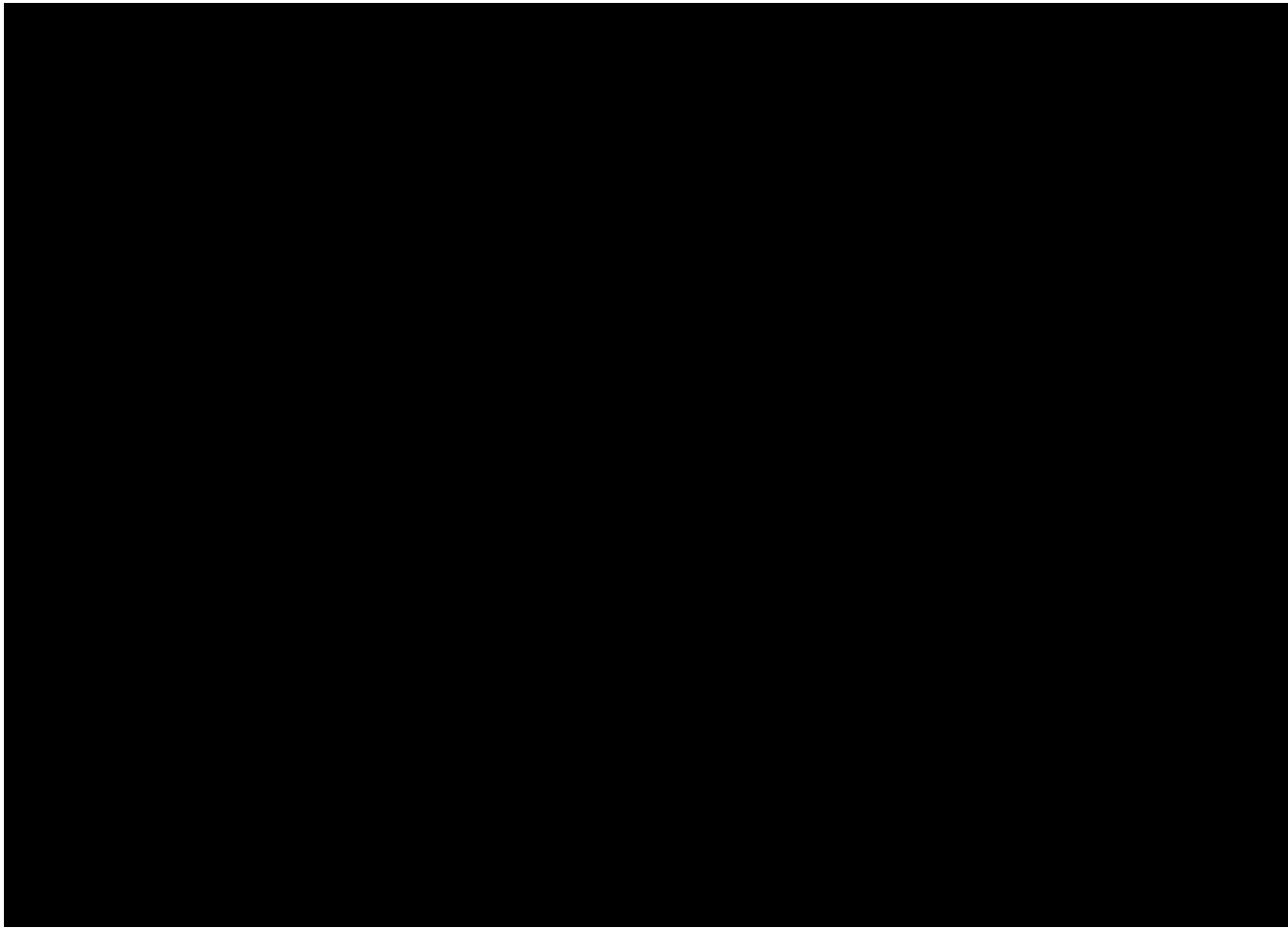
The nett project property cost (item A in the cost estimate summary forms in Appendix J1) includes costs pertaining to both permanent land acquisition and temporary occupation. The base estimate (for acquisition) and temporary occupation estimate (expressed as an annual rent cost) is provided in the memorandum in Appendix J2.

The corridor names in Appendix J2 are clarified in Table 2 together with the base estimate value that is applied per project.

[REDACTED]







The base estimates (for acquisition) and temporary occupation estimates are summed together and presented in the cost estimate summary forms (Appendix J1), with the contingency values determined from the multipliers outlined in section 2.6 for the P50 and P95 estimate.

2.2. Physical Works

Costs allowances for the physical works were undertaken by the quantity surveying team based on the assumptions scheduled within Appendix C. Quantity measurements were taken from the Revision A concept design drawing set contained in the design report (Appendix H of the North Detailed Business Case).

2.3. Project Development Phase

An allowance of 2% of the total base estimate for physical works was applied for the project development phase. This includes the following:

- Consultant fees, including preliminary design and development of implementation business case
- Client managed costs

2.4. Pre-implementation Phase

An allowance of 9% of the total base estimate for physical works was applied for the pre-implementation phase. This includes the following:

- Consenting, including environmental court risk – 1%
- Design fees, including geotechnical investigation – 7%
- Client managed costs, including iwi consultation – 1%

2.5. Implementation Phase

An allowance of 6% of the total base estimate for physical works was applied for fees within the implementation phase. This includes the following:

- Monitoring, surveillance and quality assurance (MSQA) – 4%
- Client managed costs – 1%
- Construction monitoring fees – 1%

2.6. Risk and Contingencies

The physical works allowances include a 25% contingency (P50) and a funding risk contingency (P95) of 20%, reflecting the uncertainty in the final form of the projects.

The property cost allowances include a 15% contingency (P50), except for the *new rapid transit corridor* project where 30% contingency (P50) is applied, and a funding risk contingency (P95) of 20% which align with the physical works allowance.

These contingencies are required for cost estimation in accordance with the Waka Kotahi Cost Estimation Manual (SM014) and their definitions are as follows:

- Contingency (P50)
 - A financial provision added to the base estimate to provide for uncertainty in relation to the estimate inputs and specific project threats and opportunities with a cost impact to derive the expected estimate. The ‘contingency’ represents the statistical mean.
- Funding risk contingency (P95)
 - An additional financial provision for uncertainty in relation to the estimate inputs and project related threats and opportunities (funding risk contingency).

An advanced approach towards risk will need to be undertaken in the Implementation Business Case in the future.

2.7. Escalation

The cost allowances provide an indication of infrastructure funding requirements at a base date and do not reflect programming over time. Therefore, escalation is not included directly in this report.

2.8. Verification

A detailed business case of this scale would normally involve preparation of a parallel physical works estimate by an independent estimator. However, as this business case is primarily focused on route protection and a subsequent stage will be undertaken to seek funding for implementation, a lower level of cost estimation accuracy is considered acceptable. Therefore, it has been agreed with both Auckland Transport and Waka Kotahi NZ Transport Agency that the costs will be peer reviewed through 'cross verification' by a separate team within Te Tupu Ngātahi Supporting Growth who were independent of the initial estimate preparation.

For property cost estimates, verification is suited to a route protection business case, following the approach outlined in section 2.1 of this report, involving the following:

- Undertake a review of the methodology applied on the project
- Undertake a review of the rates / benchmarking used for different land uses and property types
- Internal review with Auckland Transport and Waka Kotahi NZ Transport Agency on property estimates

Appendix J1 – Cost Estimate Summary Forms

Appendix J2 – Property Cost Estimate Memorandum

Appendix J3 – Generic Physical Works Assumptions Schedule

