



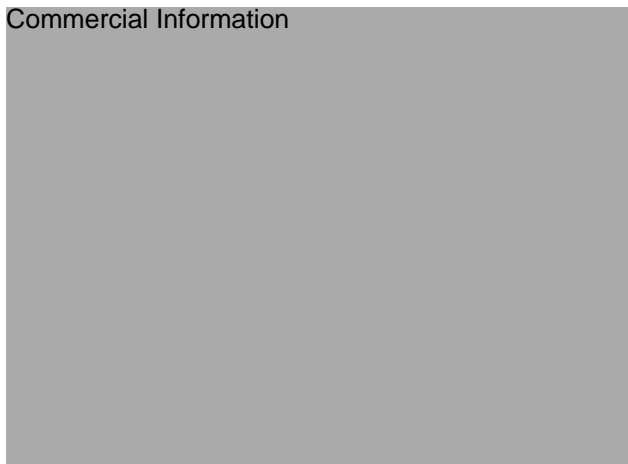
Dargaville Wharf / Pontoon Upgrade Business Case



Dargaville Wharf Upgrade Business Case

Developed on behalf of Kaipara District Council by:

Commercial Information



11th February 2020

Authors:

Privacy of natural persons

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Approved by:

Privacy of natural persons

Document History and Status

Revision	Date	Author	Reviewed & Approved by	Status
70% Draft	18-Oct-19	Commercial Information	Commercial Information	70% Draft
95% Draft	11-Nov-19	Commercial Information	Commercial Information	95% Draft
Final v1	3-Dec-19	Commercial Information	Commercial Information	Final
Final v2	11-Feb-20			Final

Executive Summary

This Business Case sets the justification for the Dargaville Wharf / Pontoon Upgrade Project which is located in central business area of Dargaville, the main town of the Kaipara District.

The Dargaville Wharf / Pontoon Upgrade Project is estimated to cost \$Commercial Information with an estimated Commercial Information to construct. The scope of the project is the upgrade of the wharf. The primary purpose of the Dargaville Wharf is to serve as the ferry transport hub for the district.

This project is strategically aligned in Council's objectives and is part of the Kaipara Kick Start Programme - Wharves Activation Programme; achieving economic growth through harnessing the Kaipara Harbour the largest harbour in New Zealand.

The Dargaville Wharf is the first infrastructure to be built as part of the Wharves Activation Programme with a supporting wharf network being established as identified in the Wharves Feasibility Study. The outcomes to be achieved by this project include:

- Increasing tourism activity
- Improving transport efficiency
- Improve safety
- Enhance, promote and protect heritage and local iwi culture.
- Increase local employment

This business case applies a project prioritisation matrix to evaluate and quantify several criteria across each of the three key elements:

- Strategic alignment to Council's objectives; scoring Comm%
- Project risk and complexity; scoring Comm%
- Economic cost benefit analysis including options analysis; scoring Comm%

The overall priority score for this project is Comm out of a 100 - high.

Economic benefits for the recommended option for this project over the next 25 years (the analysis period, AP) are estimated to provide: a net present value cost benefit of \$Commercial Information. This is based on an increase of 1000 tourists, from the current base of approximately 5000 p.a via harbour cruises, in year 2 of the AP and growing at 5% p.a passenger increase thereafter. Under this scenario, the project has a Commercial Inf pay back period.

It is recommended that based on this project's alignment to achieving Council's objectives, a manageable project risk and complexity, combined with positive economic benefits and additional non-monetised community benefits, that this project proceeds. This qualified yes, is dependent on the tourism-only derived economic benefit based on key assumptions. The Wharves and Water Transport Network Feasibility Study will explore benefits in greater detail. Capital cost estimates supplied by the client are recommended to be validated to improve cost estimate accuracy and certainty.

Business Case

Project Name: Dargaville Wharf Upgrade Project

Project No.: _____

Project Owner: Kaipara District Council

Project Cost \$ _____ Commercial Info

Contingency _____ Comm%/o

Total \$ _____ Commercial Info

Council Objective Alignment: _____ Comm%/o

Is this an **Existing** or **New Asset**?

Existing

New

Project Risk & Complexity Score: _____ Comm%/o

Project Type:

Growth

Renewal

Level of Service

Cost Benefit Analysis: _____ Comm%/o

Total Score

_____ Comm%/o

Governance

Prepared By: _____ Commercial Information

Date: 11 November 2019

Project Sponsor: _____ Commercial Information

Business Owner: _____ Commercial Information

Proposed Start Date: _____ Commercial Information

Duration: _____ Commercial Information

Context (Background/ Intro):

The Dargaville Wharf Upgrade Project is part of the Kaipara District Council – Kaipara Kick-start (Kaipara Moana Activation Plan) - funding through the Provincial Growth Fund. Kaipara Kick-start consist of three complementary streams;

- Kai: Unlocking the potential of fertile land assets in the Kaipara through investigations and analysis and programme of work to begin the transformation of idle land, to productive land.
- Wharves: Making the harbour access ble to tourism and the horticulture industry, and providing a lasting connection to Auckland, to provide a sustainable future for the Kaipara.
- Roads: Remediation and upgrade work to current roading infrastructure. The primary drivers for this are land access and road user (e.g. tourist) safety.

The Dargaville Wharf Upgrade Project is part of the broader Wharves Network Project which consists of;

- Phase 1a: feasibility, project master planning network of wharves, project prioritisation through business cases, \$950,000.
- Phase 1b: projects construction; \$4,000,000.

Business Need / Justification:

The Kaipara Harbour is the biggest harbour in New Zealand. The natural topography of the harbour enables efficient harbour transport of passengers, vehicles and light freight as well as serving tourism. The harbour links locally the communities and lwi of the Kaipara District as well as connections to Auckland. The Dargaville Wharf is situated in the nearby town centre of Dargaville which is the main township of the Kaipara District. The Dargaville Wharf will serve as the Wharves transport hub servicing the district. The existing Dargaville Wharf is a few years old and in good condition yet the current design is not fit for purpose or adequate to serve in future as a wharf passenger ferry terminal.

Objective(s):

To construct an upgraded, safe, cost effective, fit for purpose, optimum option wharf that fulfils all key functional requirements for stakeholders to serve as the ferry terminal hub for wharves network promoting tourism, ferry passenger commute and light ferry freight. This will in turn increase transport efficiency, tourism, safety and connect a network of wharves supporting increased economic activity in the district.

Benefit(s):

Providing a town centre ferry terminal hub servicing a network of wharves connecting communities, fertile lands, lwi at strategic nodes of the Kaipara Harbour and linkage to Auckland This will in turn increase transport efficiency, increase tourism, promote use of fertile lands and be a catalyst for increased economic activity. This project links to the broader Kaipara Kick-start program.

Strategic Alignment:

This project is in alignment to:

- Kaipara Kick-start program (Wharves Activation Plan), - Twin Coast Discovery Route, - Northland Cycle Plan BC,
- Kaipara District Council Long Term Financial Plan, - Kaipara District Council Infrastructure Strategy, - The Kaipara District Plan,
- Northland Journeys Tourism Strategy, - Tai Tokerau Northland Economic Action Plan, - Regional Land Transport Plan,
- Aotearoa New Zealand Government Tourism Strategy,

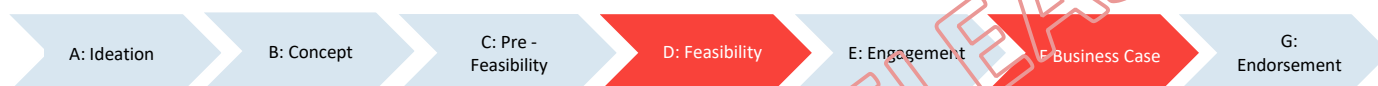
Planning

Project Scope: Project options include scope consideration for wharf / pontoon upgrade. Scope:
 - improved wharf; floating pontoon for berthing (+ dredger), improved wharf shelter, removal old redundant piles.

Assumptions:

- Detailed engineering assessments have not been completed, no major issues are assumed
- Resource consent(s) approved.
- Wharves Network feasibility not complete, preliminary network concept assumed.
- Engineers estimates for design options required

Project Phase



Wharves Activation Feasibility Study underway, this is business case for Dargaville Wharf / Pontoon Upgrade.

Preliminaries (complete Yes / No)

Feasibility:	YES	NO	Stakeholder Engagement:	YES	NO
Concept Design:	YES	NO	Identified Funding:	YES	NO
Detailed Designs:	YES	NO	Authorised for Business Case:	YES	NO

Identified Stakeholders Engaged With:

Leadership Team:	YES	NO	Planning & Regulatory:	YES	NO
Asset Manager:	YES	NO	Councillors:	YES	NO
Community:	YES	NO	Regional Council:	YES	NO
Iwi Groups:	YES	NO	Central Government:	YES	NO

Project Resourcing (internal)

Project Manager:	YES	NO	Project Manager:	Commercial Information
Procurement:	YES	NO	Procurement Officer:	Commercial Information
Engineer:	YES	NO	Engineer:	Commercial Information
Communications:	YES	NO	Communications Officer:	Commercial Information

Procurement

Delivery Model: **Commercial Information**

Market Resources: **AVAILABLE** **UNSURE** **CONSTRAINED**

Has an EOI gone out: **YES** **INFORMAL** **NO**

Project Alignment to Council Objectives

Description:

- This business case applies a project prioritisation matrix which evaluates criteria across three key themes:
- Strategic alignment to Council's objectives.
 - Project risk and complexity.
 - Economic cost benefit analysis including options analysis.

The element measured here is strategic alignment to Council's objectives. The criteria as referenced below are quantified by variables scored 1 (low) to 3 (high) with exception of the Provincial Growth Funding criteria which is scored 1 (low) to 10 (high). The criteria are then totalled and converted to an overall percentage score. A low percentage score represents low project alignment to Council's objectives, whilst a high score represent high alignment and thus a more attractive - higher prioritised project.

Prioritisation Score Comm%

Low High

Criteria	Score	Weighting
Political appetite	3	
Community alignment, including Iwi	2	
Strategic alignment.	3	
Is the project related to a core service**	2	
Organisational efficiency cost benefit	1	
Risk (of not carrying out the project)	1	
Provincial Growth Fund Criteria	8	



Value	Variable
1	There is no political appetite and this has been expressed.
2	The level of political appetite is unknown.
3	The project has been discussed previously and political appetite has been expressed.
1	The Community has signalled they do not support the project.
2	The Community is unaware or indifferent. There is no key Community member or members driving the project.
3	The Community has signalled they support the project. There is a member/s of the Community driving the project.
1	This project is not aligned to a specific action or objective specified in a Council approved strategic document.
2	This project is aligned to one specific action or objective specified in a Council approved strategic document.
3	This project is aligned to more than one specific action or objective specified in a Council approved strategic document.
1	The project is not impacting the delivery of Council's core services**. This project is discretionary.
2	Project is maintaining or improving a core service but not fundamental to Community health and wellbeing.
3	Project is maintaining or improving a core service and is fundamental to Community health and wellbeing.
1	This project will be of not provide cost savings to the Organisation i.e. increased effectiveness or efficiency (soft or bottom line benefits).
2	This project will provide value to the Organisation i.e. increased effectiveness or efficiency (soft or bottom line benefits) to the equivalent of 0 to \$50k.
3	This project will be of value to the Organisation i.e. increased effectiveness or efficiency (soft or bottom line benefits) to the equivalent of >\$50k p.a.
1	No or low risks of not carrying out the project.
2	Medium or high-level risks exist if the project were not to proceed.
3	Very high or extreme level risks if the project were not to
Each criteria is worth one score each:	
✓	Increase economic output.
✓	Enhance utilisation of and/or returns for Māori assets.
✓	Increase productivity and growth.
✓	Increase local employment and wages (in general and for Maori).
✓	Increase local employment, education and/or training opportunities for youth (in general and for Māori).
X	Improve digital communications, within and/or between regions.
✓	Improve resilience and sustainability of transport infrastructure, within and/or between regions.
X	Contribute to mitigating or adapting to climate change.
✓	Increase the sustainable use of and benefit from natural assets.
✓	Enhance wellbeing, within and/or between regions.

*Core Service defined in Part 2 Section 11A of the LGA 2002: (a) network infrastructure, (b) public transport services, (c) solid waste collection and disposal, (d) the avoidance or mitigation of natural hazards, (f) libraries, museums, reserves, recreational facilities , community amenities.

Project Risk & Complexity

Description:

This business case applies a project prioritisation matrix which evaluates criteria across three key themes:
 - Strategic alignment to Council's objectives.
 - Project risk and complexity.
 - Economic cost benefit analysis including options analysis.

The element measured here is project risk and complexity. The criteria as referenced below are quantified by variables scored 1 (low) to 3 (high) with exception of the Estimated Cost criteria which is scored 1 (low) to 6 (high). The criteria are then totalled and converted to an overall percentage score. A low percentage score represents a project with higher risk and complexity, whilst a high percentage score represent low risk and complexity and thus a more attractive, easier to delivery higher prioritised project.

Project Risk & Complexity Score

Low High

Description	Score	Weighting	Value	Criteria
Benefit expectation	2		1	There are challenges in clearly defining benefits and stakeholders have not clearly stated their expectation of benefits.
Dependencies	2		1	Dependencies with major impacts to other projects, cost or services if changed.
Impact & consultation with customer or ratepayer	2		1	Customers won't notice any change and no consultation required.
Impact on council	3		1	There will be significant changes to council stakeholders as a result of the project, such as changes in everyday activities, processes, systems or budget.
Risk	3		1	Some very high or extreme risks exist.
Scope	2		1	Unable to fully define scope, will require diligent monitoring and management as scope is agreed and further defined.
Funding source	1		1	The majority of the funding is provided by organisations external to council and/or is arriving from multiple organisations.
Estimated project cost	Com		Commercial Information	
Procurement	2		1	Procurement requirements are minimal and can be managed by the business area.

Cost Benefits Analysis

Description Cost Benefit Analysis has been performed in alignment to "The Treasury" of New Zealand's "Better Business Case – 2019 Guidelines". Cost benefit analysis important feature of decision-making where the economic impacts are evaluated via a systematic approach by estimating the strengths and weaknesses of project options to inform the optimum approach to achieving benefits while preserving savings. Tangible benefits are quantified in monetary terms and are adjusted for the time value of money; all flows of benefits and costs, over time are expressed in terms of their net present value (NPV). NPV, Pay Back Period and Return on Investment (ROI) are the methods used in the business case for cost benefit analysis and evaluation, with final options selection incorporating non-monetised benefits (such as cultural, environmental, efficiency, community well being and so on).

Cost Benefits Analysis Score	80%
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Options

Project Title	Description	NPV	Payback	ROI
1. Concrete kit pontoon no surrounds	Concrete floating pontoon only	\$ Commercial In	Go	Comme %
2. Bespoke pontoon no surrounds	Concrete floating pontoon only	\$ Commercial In	Go	Comme %
3. Concrete kit pontoon no surrounds	Concrete floating pontoon only with different capital cost value from Option 1	\$ Commercial In	Go	Comme %

Net Present Value Options Cost Benefits Analysis



Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Option 1																									
Capital Costs	Commercial Information																								
Operating Costs	Commercial Information																								
Maintenance Costs	Commercial Information																								
Economic Benefit*	Commercial Information																								
NPV Total	Commercial Information																								
Option 2																									
Capital Costs	Commercial Information																								
Operating Costs	Commercial Information																								
Maintenance Costs	Commercial Information																								
Economic Benefit*	Commercial Information																								
NPV Total	Commercial Information																								
Option 3																									
Capital Costs	Commercial Information																								
Operating Costs	Commercial Information																								
Maintenance Costs	Commercial Information																								
Economic Benefit*	Commercial Information																								
NPV Total	Commercial Information																								

Options Recommendation Summary

Project Option 1 - Concrete kit pontoon with no surrounds is the recommended option project to proceed. The scope includes:
 - upgraded wharf; floating pontoon for berthing high and low tides, improved wharf shelter, removal old redundant piles, dolphins for larger ship such as dredger, LED lighting; elevated and underneath, 15AMP electric charger.

This project has NPV value at \$Commercial Info for 25 years with a 10 year pay back and has the highest ROI. Option 1 also provides additional non-monetary community benefits such as:
 - Improved cultural and heritage enhancement including local Iwi, future proofing infrastructure.
 - electric charger for future electric ferry and boat charging capability enabling reducing carbon footprint.
 - enhancing transport capability for efficiency and reduced transportation costs via Kaipara Harbour.

Assumptions and Diligence Check List

Description:

The purpose of this check list is to provide a business case and preliminary project planning due diligence and governance check, identifying the main project risks and identify tasks to mitigate these risks. This check list is not exhaustive. The intention is to transfer knowledge collated through the development of this business case to inform the project manager to facilitate project planning for delivery.

Questions	Assessment					Key Observations & Actions
	WEAK THREAT			STRONG OPPORTUNITY		
	1	2	3	4	5	
1 STRATEGIC FIT						
1.1 Does this asset serve a core mandatory service?			✓			Core service, level of service undefined.
1.2 Is this project supported by stakeholders?			✓			Yes,+ community consultation planned <small>Commercial Information</small>
1.3 Does this project sit within a developed and endorsed master plan?					✓	Kaipara Kick Start Programme
2 FUNDING						
2.1 Is the project identified in the Long Term Financial Plan?				✓		Will be in next round LTFP 2021 - 2031
2.2 Is the project in the alignment to Infrastructure Strategy?				✓		Will be in next round IS 2021 - 2051
2.3 Are funds available and secured?				✓		<small>Commercial Information</small>
2.4 Does the project has a positive NPV?				✓		Yes, about \$ <small>Commercial Information</small>
2.5 Are whole of life costs for the asset acceptable and affordable?				✓		Yes, WOL costs estimated
3 PROJECT REQUIREMENTS						
3.1 Have we established the full functionality the asset(s)? (What is has to do)				✓		Wharves Steering Group meeting 18th Oct 2019
3.2 Do we fully understand the scope of the project?				✓		Wharves Steering Group meeting 18th Oct 2019
3.3 Have we consulted with stakeholders?				✓		Wharves Steering Group established, community engagement planned
3.4 Are the project timelines acceptable?				✓		<small>Commercial Information</small>
3.5 Do we have the right Project Manager available?					✓	<small>Commercial Info</small>
3.6 Do we have the right resources & capability to deliver?					✓	KDC resources available, market to deliver
3.7 Does delivery requiring more than one primary contractor?		✓				Unsure
3.8 Are the potential risks understood and manageable to acceptable level?				✓		Minimal risks and mitigated
4 DELIVERY PREPARATION						
4.1 Have concept designs been produced?			✓			Draft concept designs
4.2 Has an engineers estimate been developed?			✓			Cost data Supplied KDC and Wharves Steering Group
4.3 Are Resource Consents likely to be obtained without issue?					✓	Yes, RC for concept design approved
4.4 Are time constraints in line with proposal / tender timetables?			✓			Tight timelines
4.5 Do we have experience with the procurement process?					✓	Yes and experienced
5 Risk						
5.1 Are assumptions well known and acceptable?				✓		Minimal risks and mitigated
5.2 Are additional investigations needed to sure up assumptions and risks?			✓			Refer below.
6 Key Economic Analysis Assumptions						
6.1 Costs are indicative, supplied by Kaipara District Council and the Wharves Steering Group.						
6.2 Detailed engineering assessments will produce no major issues that will impact on cost.						
6.3 Project options and scope provided by Kaipara District Council and the Wharves Steering Group.						
6.4 Weighted average cost of capital %.						
6.5 River cruise tourists increase by 1000 in yr.2 (increase of 20%), 800 of whom will spend \$100 in local economy, 200 stay over night and spend \$400 in local economy, at 5% p.a. growth in the additional 1000 passengers and 3% CPI.						
6.6 Refer Appendix A Cost & Benefit Assumptions for additional detail.						
What are the main risks associated with THE "PROJECT" and "BUSINESS CASE"? How they will be managed & communicated?						Based on the assessment, the assumptions and BC is acceptable as viable?
<ul style="list-style-type: none"> - Community consultation planned. - Project timelines to be confirmed. - Engineering assessments will improve cost accuracy. - Wharves & Water Network Feasibility Study planning will refine cost benefits - Project costs to be validated 						<div style="display: flex; justify-content: space-around;"> <div style="background-color: red; color: white; padding: 10px; border-radius: 5px;">YES</div> <div style="background-color: gray; color: white; padding: 10px; border-radius: 5px;">NO</div> </div>

Go / No Go Approval

Completed by Business Case Developer:

NAME	SIGNATURE	DATE
<small>Commercial Information</small>		

Acceptable by Project Manager:

<small>Commercial Information</small>		
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Acceptable by Project Sponsor:

<small>Commercial Information</small>		
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Appendix

A

Cost & Benefit Assumptions

Commercial Information



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Cost & Benefit Assumptions

1. Concrete kit pontoon with surrounds Capital Costs \$ Commercial Informa

Item	Cost	Comment
Pontoon supply & delivery*	\$ Commercial Infor	
Pontoon crange, elec, gangway install, shelter*	\$ Commercial In	
Pontoon fending*	\$ Commercial In	
Dolphins*	\$ Commercial In	Two pile dolphins with double timber headstock, SS fasteners – pine (bare) - supply/driven/assembled
Removal redundant piles*	\$ Commercial In	Barge based pull - \$Comme/pile or 2. Diver cut off at seabed - \$Commercial Infor – could do Commere in a day
Contingency	Com%	
Operating, Maintenance & Renewal Costs	variable	Indicative estimates. No allowance for full asset renewal at end of life (>25years)

*Cost estimates supplied by client

2. Bespoke pontoon with surrounds Capital Costs \$ Commercial Informa

Item	Cost	Comment
Pontoon supply & delivery	\$ Commercial Infor	Derived January 2018 Barfoot Construction quote and information supplied by Hawthorne Geddes during Wharves Steering Group meeting 18 Oct 2019.
Pontoon crange, elec, gangway install, shelter*	\$ Commercial In	
Pontoon fending*	\$ Commercial In	
Dolphins*	\$ Commercial In	Two pile dolphins with double timber headstock, SS fasteners – pine (bare) - supply/driven/assembled
Removal redundant piles*	\$ Commercial In	Barge based pull - \$Comme/pile or 2. Diver cut off at seabed - \$Commercial Infor – could do Commere in a day
Contingency	Com%	
Operating, Maintenance & Renewal Costs	variable	Indicative estimates. No allowance for full asset renewal at end of life (>25years)

*Cost estimates supplied by client

Cost & Benefit Assumptions

3. Concrete kit pontoon without surrounds Capital Costs Commercial Information

Item	Cost	Comment
Pontoon supply & delivery*	\$ <small>Commercial Infor</small>	
Pontoon crange, elec, gangway install, shelter*	\$ <small>Commercial In</small>	
Pontoon fending*	\$ <small>Commercial In</small>	
Dolphins*	\$ <small>Commercial In</small>	Two pile dolphins with double timber headstock, SS fasteners – pine (bare) - supply/driven/assembled
Removal redundant piles*	\$ <small>Commercial In</small>	Barge based pull - \$ <small>Comme</small> /pile or 2. Diver cut off at seabed - \$ <small>Commercial Infor</small> – could do <small>Comme</small> in a day
Contingency	<small>Comme</small> %	
Operating, Maintenance & Renewal Costs	variable	Indicative estimates. No allowance for full asset renewal at end of life (>25years)

*Cost estimates supplied by client

4. Economic Benefit Assumptions

Item	Benefit	Comment
Tourism from wharf	\$ <small>Commercial Infor</small> year <small>Com</small> then <small>Comme</small> % p.a.	Current Kaipara Harbour River Cruises bring 5000 tourists per year. The Dargaville wharf current can only operation at <small>Comme</small> % availability for docking due to tidal movements. A pontoon will enable <small>Comme</small> % docking availability and in alignment with organic tourism growth and the assumption that cruise operators will take advantage of the increased availability, 1000 tourists are projected to increase after the build of the new wharf pontoon. 80% of the additional tourist will bring \$100 per day into local economy with day trips and 20% of the additional tourist will bring in \$400 with staying overnight (accommodation etc). Growth in the additional tourists is at 5% thereafter.
Light Freight	None	Further investigation needed – feasibility study will inform
Ferry passengers	None	Further investigation needed – feasibility study will inform
Transport efficiency	None	Further investigation needed – feasibility study will inform
Safety	None	Further investigation needed – feasibility study will inform
Weighted average cost of capital	-	<small>Com</small> % applied as discount factor
Cost Accuracy	-	Costs are indicative, supplied by Kaipara District Council and the Wharves Steering Group. Additional cost accuracy recommended via validating costs.
Engineering assessments	-	Detailed engineering assessments will produce no major issues that will impact on cost.
Project options and scope		Workshopped and provided by Kaipara District Council and the Wharves Steering Group.

Cost & Benefit Assumptions

5. Disclaimer of liability for reliance on client-supplied data if appropriate

In preparing the Report, WSP has relied upon data, surveys, analyses, designs, plans and other information ('Client Data') provided by or on behalf of the Client. Except as otherwise stated in the Report, WSP has not verified the accuracy or completeness of the Client Data. To the extent that the statements, opinions, facts, information, conclusions and/or recommendations in this Report are based in whole or part on the Client Data, those conclusions are contingent upon the accuracy and completeness of the Client Data. WSP will not be liable in relation to incorrect conclusions or findings in the Report should any Client Data be incorrect or have been concealed, withheld, misrepresented or otherwise not fully disclosed to WSP.

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Appendix

B

Dargaville Wharf Facility Preliminary Layout Concept - Drawing Removed

No Longer Applicable
because the on-land
facilities are not part of this
revised project.

Commercial Information

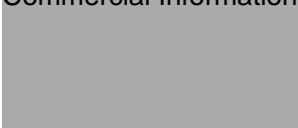


Appendix

C

Wharf Pontoon Upgrade Concept Design

Commercial Information



PROACTIVELY RELEASED

provisional - not for construction

KEY

- Cap on top of pile
- Low on pile
- Top of pile
- 300mmØ pile with bracket
- 250mmØ pile (approx)
- 330mmØ pile (approx)

Heights are in terms of the One Tree Point Datum
Origin SM25 SO 5884 RL = 3.14

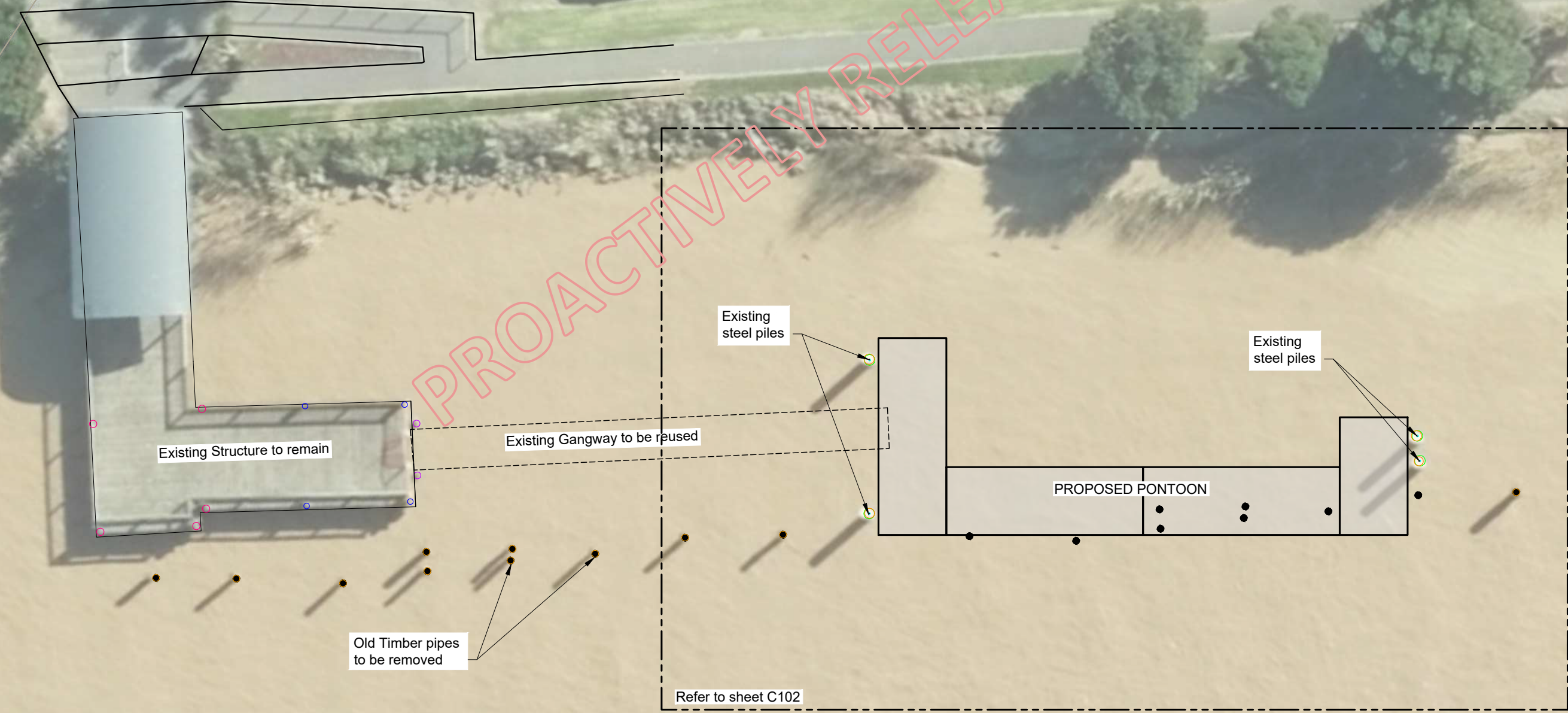
Measurements to the steel piles are taken low down, just below the top and on the screw on cap on the top of the pile

THIS DRAWING WAS PRODUCED IN COLOUR. DO NOT USE FOR CONSTRUCTION PURPOSES IF THIS NOTE IS IN BLACK & WHITE

NOTE:
SITE INFORMATION ADAPTED FROM SURVEY DRAWING PROVIDED BY LANDS AND SURVEY REFERENCE 9698/T/1/A, SHEET 1 DATED MARCH 2017;
AERIAL PHOTO PROVIDED LINZ DATA AND MAY SHOW DISTORTION;
ALL INFORMATION MUST BE CONFIRMED ON SITE;
TO BE READ IN CONJUNCTION WITH HAWTHORN GEDDES ENGINEERS & ARCHITECTS LTD REPORT REFERENCE 10788



PROACTIVELY RELEASED



Commercial Information

USE WRITTEN DIMENSIONS. DO NOT SCALE FROM DRAWING.

Commercial Information

CLIENT	KAIPARA DISTRICT COUNCIL		
PROJECT	DARGAVILLE WHARF PONTOON WAIROA RIVER, DARGAVILLE		
DRAWING	SITE PLAN		

P1	ISSUED FOR CLIENT COMMENT	DT	04/11/19
REV.	REVISION DETAILS	BY	DATE

CONCEPT		SCALE @ A3 1 200
DRAWN	DT NOV 2019	PROJECT No.
CHECK		10788
APPROVED	Privacy of natural persons	SHEET
DRAFT		C101
		P1

7/11/2019 9:42:31 AM 10788 CONCEPT.dwg

Appendix

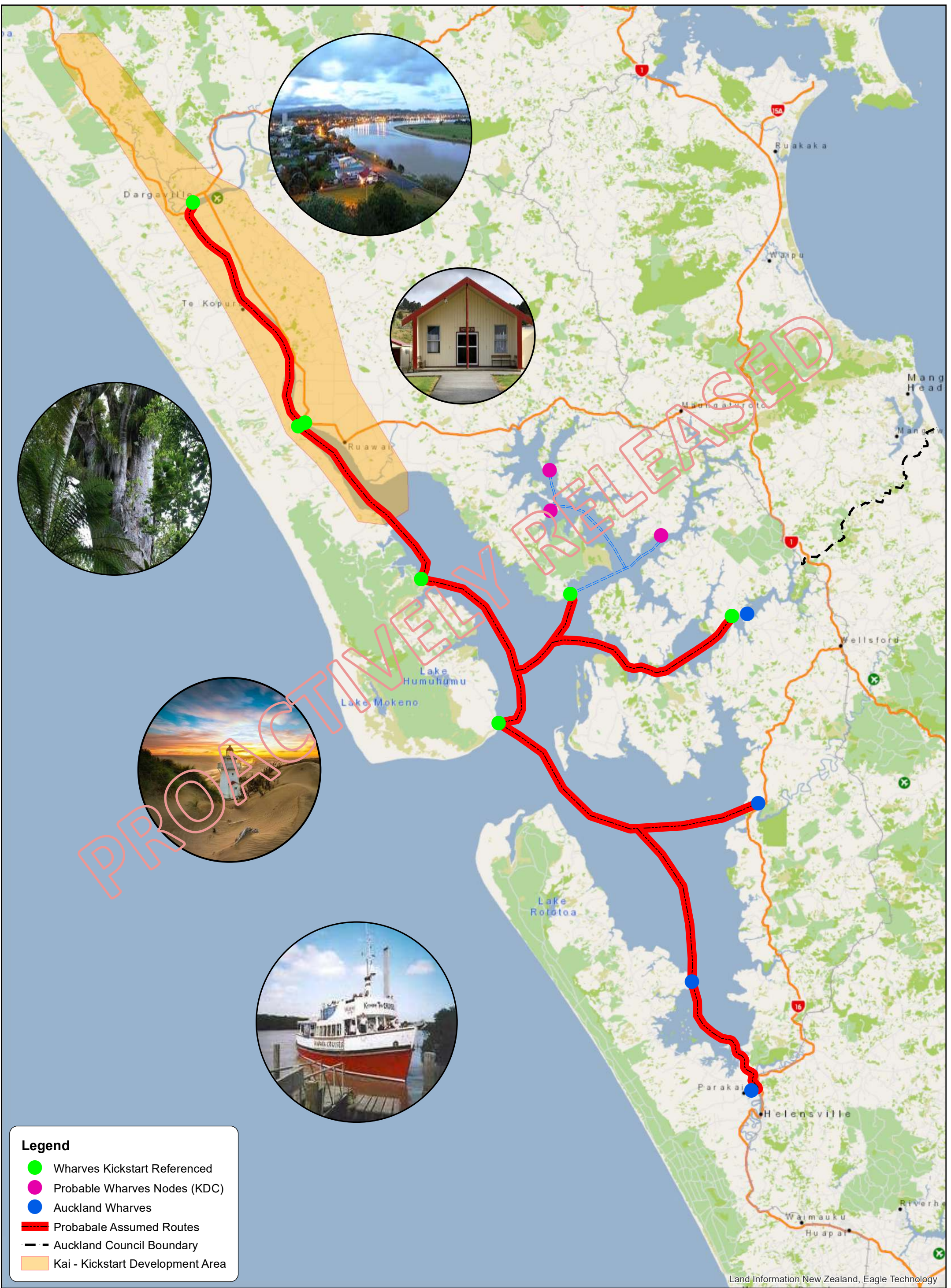
D

Preliminary Ideation Concept Wharves & Water Network

Commercial Information



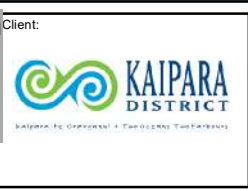
PROACTIVELY RELEASED



- Legend**
- Wharves Kickstart Referenced
 - Probable Wharves Nodes (KDC)
 - Auckland Wharves
 - Probable Assumed Routes
 - Auckland Council Boundary
 - Kai - Kickstart Development Area

PROACTIVELY RELEASED

Commercial Information



Kaipara Kickstart

Wharves and Water Transport Network Feasibility Study

Project No	Proposal	Scale:	N
Designed	Privacy of	0 700 1,000 2,000 3,000 5,000 Metres	1:300,000 @A3
Drawn	Privacy of	Approved	
Note		Map No	Date
		1	07/11/2019
		Revision	Revision Date
		A	07-Nov-19