



8 March 2024
Job No: 1017346.3000

New Plymouth District Council
Private Bag 2025
84 Liardet Street
New Plymouth 4340

Attention: Darlene Ladbrook

Dear Darlene

Weld Road Pathway and Ahu Ahu Bridge Taranaki Regional Council Section 92 response (23-11174-1.0)

Introduction

This letter provides a response to the section 92 further information request (ref: 23-11174-1.0) received from Taranaki Regional Council (TRC) dated 12 December 2023. Numbering and questions from TRC are in italics as per the section 92 further information request, with Tonkin & Taylor Ltd's (T+T) response below each question.

Response

Planning

- 1 The updated application information regarding the location of the coastal marine area (CMA), supplied 21 November 2023 (#3230906), places the bridge abutments outside the CMA. If this is the case, then the Regional Coastal Plan (RCP) does not apply and will you need to assess this structure against the relevant rule(s) of the Regional Fresh Water Plan (RFPW). Please confirm.*

Response:

We confirm that the bridge abutments are located outside of the CMA based on the interpretation of the Regional Coastal Plan for Taranaki 2023 (RCP) which states that where the line of MHWS crosses a river (such as Whenuariki Stream), the landward boundary at that point will be whichever is lesser; one kilometre upstream from the mouth of the river or the width of the river mouth multiplied by five. Given the width of the Whenuariki Stream mouth is at least 12 m, the CMA extends approximately 60 m upstream. This interpretation was captured in figures provided to TRC on 21 November 2023. The Whenuariki Stream at the project location is CMA and therefore, the RCP would be the applicable regional plan and the RFPW does not apply.

- 2 The Landscape and Visual Effects Assessment (LVEA) provided with the application concludes that effects on visual amenity/landscape character will be moderate, which equates to 'more than minor' when using the matrix from Te Tangi te Manu (landscape assessment guidelines). However, the assessment of adverse effects on visual amenity/landscape character in the AEE*

concludes that these effects will be 'no more than minor'. Please explain why the landscape assessment guidelines have not been considered as part of this assessment and elaborate further on your reasons for assessing these effects as no more than minor.

Response: Please refer to the LVEA Addendum (dated 31 January 2024), updated LVEA (dated January 2024), and planning interpretation provided in the email sent to TRC on 12 February 2024.

Coastal Ecology

3 *Please provide a Penguin Management Plan (PMP) detailing how the works will be undertaken to avoid and/or minimise any adverse effects on penguins or active penguin nest sites. The PMP shall be prepared a suitably qualified professional, with input from the Department of Conservation (DOC), and shall include the following:*

- *the proposed timing of works i.e. time of year, time of day;*
- *how penguins and/or nests will be identified prior to commencement of works;*
- *if penguins and/or nests are found:*
 - o *a detailed description of the mitigation measures that will be undertaken*
 - o *prior to and during construction to avoid and/or mitigate adverse effects;*
 - o *details of the relevant parties that will be notified of the find, how they will be notified and when;*
- *if applicable, details of any monitoring that will continue to be undertaken during and/or after the works;*
- *accidental discovery protocol i.e. plan of action if penguins and/or nests are found unexpectedly following commencement of work;*
- *a contingency strategy if works are not completed within 3-4 weeks (to avoid key avifauna seasons) due to conditions or other delays.*

Response: Please refer to the Draft PMP provided in Appendix A.

This Penguin Management Plan (PMP) has been prepared in consultation with and/or with review by the following experts/advisors:

- Rebekah Gee, Department of Conservation (DOC), New Plymouth marine biodiversity ranger;
- Conrad Pattison, New Plymouth District Council (NPDC), Parks Services Lead;
- Joanna Sim, DabChickNZ, certified DOC penguin detection dog owner/trainer; and
- Kat Smith, ecologist (penguin specialist) at Tonkin & Taylor Ltd (T+T).

Table 3.1: PMP sections addressing each of the concerns outlined in the TRC S92 response

PMP details requested by TRC	PMP section addressing requests
Experts consulted in preparation of the PMP.	2.2.4.1
The proposed timing of works (e.g., time of year, time of day).	2.3.2.2, outlines the recommended time of works in terms of penguin management. Noting that the construction programme is yet to be confirmed.
How penguins and/or nests will be identified prior to commencement of works.	2.3.1.2
If penguins and/or nests are found: 1 Detailed description of mitigation measures that will be undertaken prior to and during the	2.3.1 – 2.3.4 and 2.3.6

PMP details requested by TRC	PMP section addressing requests
construction to avoid and/or mitigate adverse effects; and 2 Details of the relevant parties that will be notified of the find, how they will be notified and when.	
Details of any monitoring that will continue to be undertaken during and/or after the works.	2.3.2.1 and 2.3.2.3 and 2.3.2.4
Accidental discovery protocol i.e., plan of action and / or nests are found unexpectedly following commencement of work.	2.3.3
A contingency strategy if works are not completed within 3-4 weeks (to avoid key avifauna seasons) due to conditions or other delays.	2.3.1.2. Noting that the contingency strategy is starting with pre-construction survey works.

River Engineering

- 4 *The application states that flood level modelling assumed that rock revetment would be placed on both sides of the stream, however as rock revetment is now proposed for only the west side of the stream, the flood levels will be lower and the freeboard achieved will be greater. Therefore, please confirm what the difference in flood level/freeboard is.*

Response: Appendix D (WSP Ahu Ahu Bridge Preliminary Design Report and Drawings) of the Weld Road Pathway and Ahu Ahu Bridge – Assessment of Effects on the Environment prepared by Tonkin + Taylor, dated 20 October 2023 (AEE), contains flood level modelling that utilises an earlier design that had greater encroachment of rock riprap into the stream on the eastern embankment. The modelling shows that without any riprap, upstream ponding during a 1 in 250-year flood event is expected to occur. If riprap were to be placed on both sides, this would change the expected nature of the flooding, i.e., there would be greater inundation in some areas and less in others. The eastern rock riprap has been removed in the final design. Therefore, the effects will be less than what is shown. Specifically, it is expected that the flood level would be less, with a greater freeboard than shown in the WSP flood modelling. Therefore, we consider there is adequate information to assess this application and do not consider that additional modelling is required.

- 5 *A risk assessment of flow erosion outflanking the structure on the area in the true left abutment where the extent is limited by the property boundary. The Council's Rivers Engineer notes that the stream alignment will likely promote erosion in this area.*
- 6 *Further to the above, please provide details of the natural vegetation and root structure support in this area.*

Response [5 & 6]: As advised in an email issued by Peter Quilter (Senior Coastal Engineer at Tonkin + Taylor Ltd) to Chris Vicars (River Manager at TRC) on 21 February 2024, "Exposures in material that form the headland generally demonstrate scour resistance. It will be necessary to terminate the end of the rock revetment into this material to avoid the possibility of outflanking (scour around the ends of the structure that could compromise its stability). It will be necessary to include a note on construction drawings with words to this effect."

In addition, an inspection can be carried out by a suitably qualified engineer (civil/coastal/geotechnical) who can confirm on-site the adequacy of founding materials (particularly if there is a weathering sequence) during excavation. This could form a requirement of the consent conditions together with detailed design plans for approval. On the basis of the above, we consider the risk of erosion outflanking the structure can be appropriately addressed through the design of the structure.

- 7 *The final designs referenced in the application, if these are available at present.*

Response:

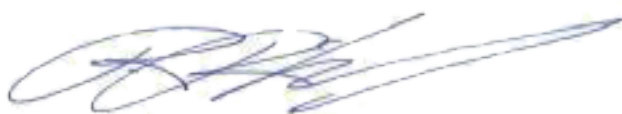
- Shared Pathway/ Revetment: Since the lodgement of the consent application, the drawings have been updated as 'Tender' versions. These versions are provided in Appendix B. Further updates may be made for construction based on any changes that are required to be implemented as part of the consent application process.
- Ahu Ahu Bridge: The drawings provided as part of the original consent application are the latest drawings and are provided for reference in Appendix B.

Closing remarks

Our responses refer to information provided in the resource consent application and address the questions raised in the section 92 request. We trust that there is now sufficient information available for you to continue processing the application.

Please do not hesitate to contact Zoe Anderson (zanderson@tonkintaylor.co.nz) if you require further clarification of any aspects of this letter. We look forward to receiving draft conditions for our review and comment in due course.

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'Richard Reinen-Hamill', with a long horizontal stroke extending to the right.

Richard Reinen-Hamill
Project Director

8-Mar-24

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Appendix A Penguin Management Plan



Penguin Management Plan for Weld Road

Prepared for
New Plymouth District Council

Prepared by
Tonkin & Taylor Ltd

Date
February 2024

Job Number
1017346.3000 v1



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Document control

Title: Penguin Management Plan for Weld Road					
Date	Version	Description	Prepared by:	Reviewed by:	Authorised by:
February 2024	V1	Draft Penguin Management Plan for Taranaki Regional Council	A. Johnston	S. Jackson K. Smith	R. R-Hamill

Draft

Distribution:

New Plymouth District Council

1 copy PDF

Tonkin & Taylor Ltd (FILE)

1 copy PDF

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1 Introduction

New Plymouth District Council (NPDC) proposes to construct a rock revetment and shared pathway around the base of the Weld Road Reserve headland, and to replace a nearby damaged bridge called the Ahu Ahu swingbridge. The shared pathway and replaced bridge will provide a recreational walkway connecting the lower Ahu Ahu Road and Lower Weld Road, thereby preventing damage to the Hauranga Pā caused by the public use of informal access tracks.

An Assessment of Ecological Effects (AEcE) was completed in August 2023 and recommended a project specific Penguin Management Plan (PMP) be prepared to manage adverse ecological effects associated with construction of the pathway and bridge replacement. Tonkin & Taylor Ltd (T+T) has been engaged by NPDC to prepare this PMP document in accordance with our letter of engagement dated 19 May 2023 (T+T ref. 1017346.3000).

This draft PMP has been prepared in response to recommendations made within the AEcE¹ to align with future resource consent conditions. This PMP will be updated and finalised once resource consents have been granted. It sets out how actual and potential adverse ecological effects associated with erosion protection works will be addressed for penguins.

1.1 Resource consent conditions relevant to this PMP

The NPDC and TRC resource consent conditions that are relevant to this PMP are shown in Table 1.1 along with the required management sections within the PMP. These conditions and associated tables, and any additional management measures within the PMP, will be updated and finalised once the resource consent has been granted.

Table 1.1: Relevant resource consent and conditions

[placeholder: Resource Consent Conditions – update required once resource consent is granted]			
Condition No.	Condition	Consent	Relevant PMP section

1.2 Project site description

The project site is located near Ōākura, approximately 10 km southwest of New Plymouth on the west coast of the North Island, New Zealand (Figure 1.1).

¹ Tonkin & Taylor Ltd (2023). Weld Road Beach Access. Assessment of ecological values and effects report. Completed for the New Plymouth District Council.



Figure 1.1 Location of the project site as indicated in red.

The project site is surrounded by wide sandy beaches backed by small, degraded remnant dunes with adjacent coastal vegetation, intertidal debris and offshore cobble and boulder reefs. The coastal shoreline adjacent to the project site is highly dynamic. The available habitat within and adjacent to the project site includes degraded dunelands, pockets of coastal grassland, shrubland and treeland. In addition, two waterbodies, Timaru Stream (western side) and Whenuariki Stream (eastern side), border the pathway construction area. The bridge replacement area borders the Whenuariki stream (with Ahu Ahu bridge being replaced above this stream). The various habitats within and surrounding the project site provide potential refugia, foraging, breeding, and nesting grounds for indigenous avifauna, herpetofauna and fish fauna.

1.3 Proposed works

The project comprises:

- a A rock revetment wrapping around the base of the Weld Road Reserve headland, supporting a coastal walkway connecting lower Ahu Ahu Road with the Lower Weld Road car park (the pathway construction area); and
- b Replacement of the Ahu Ahu bridge (the bridge replacement area) extending over Whenuariki stream and connecting Ahu Ahu Road to Weld Road Reserve.

Shared pathway

The rock revetment is approximately 140 m long and approximately 12 m wide, with a 2 m wide concrete pathway formed on its crest. The rock revetment and shared pathway will wrap around Weld Road Reserve, extending from the Ahu Ahu bridge (crossing the Whenuariki Stream) on the eastern side of the Reserve, round the headland and into an existing bush track on the western side of the Reserve, leading to the Weld Road car park (Figure 1.2; Figure 1.3).

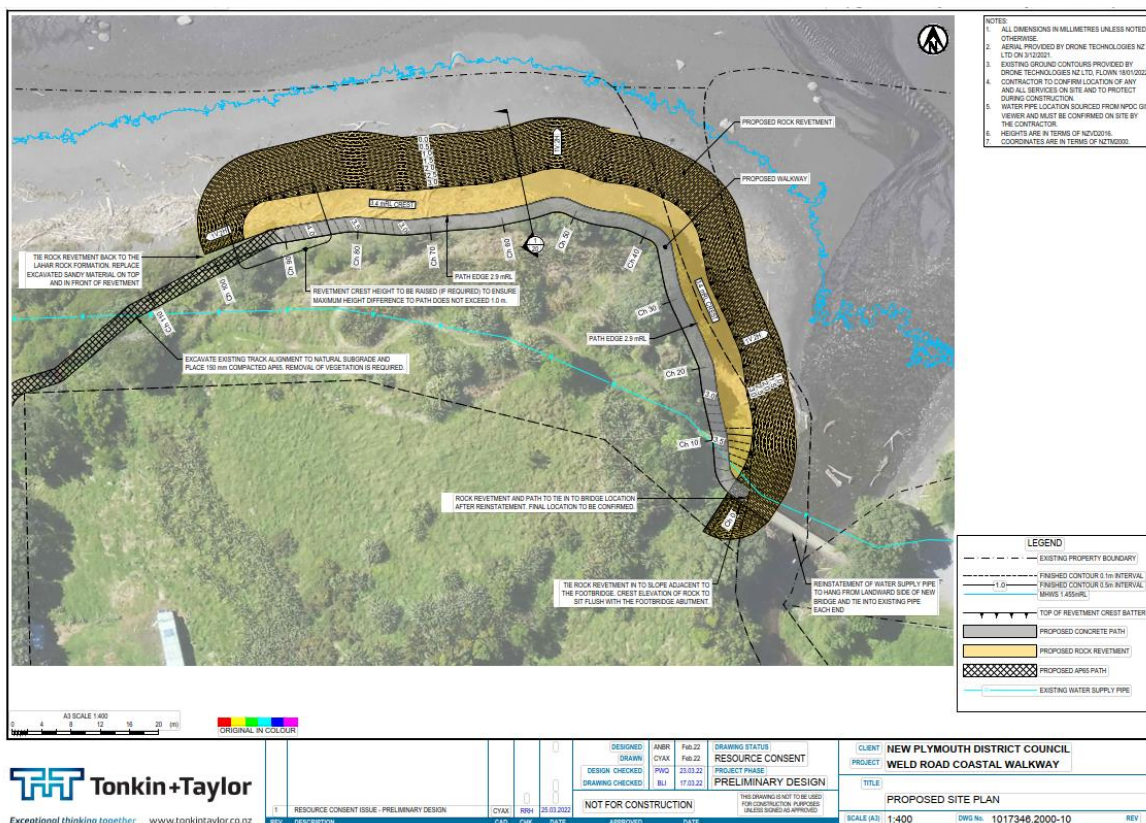


Figure 1.2: Concept design for the rock revetment and pathway installation around Weld Road Reserve headland and the extent of works within the coastal marine area (CMA).



Figure 1.3: Bridge replacement location and surround areas.

The Lower Weld Road carpark will be used as a construction laydown area for shared pathway, with alternative public parking and beach access provided on the adjacent grassed area. Revetment rock will be stockpiled in the laydown area and taken to the works area by Moxy truck. Construction vehicles will access the foreshore via an existing pedestrian access point over the dunes, removing approximately 10 m² of duneland vegetation to widen that access.

The shared pathway works will require the removal and trimming of some trees and coastal vegetation around the headland bank on the beach front, including Pōhutukawa trees. It is also expected that works required to complete the rock revetment and pathway will take place alongside and within the edge of Whenuariki Stream. The Whenuariki Stream may need to be temporarily trained using sandbags to prevent the stream from encroaching on the works site.

The total duration of works is expected to be approximately 3-4 weeks.

Bridge replacement

The replacement bridge (outlined as 'bridge crossing' in Figure 1.3) will connect the Ahu Ahu road carpark area with the reposed coastal rock revetment pathway on the western side of the Whenuariki Stream, leading to the Weld Road car park (Figure 1.3).

Finalised detailed design and construction methodologies will be confirmed by a bridge specialist company closer to the time of construction. Current preliminary concept plans for the bridge replacement (provided by WSP to NPDC) propose increasing bridge length to approximately 21 m in length and allowing the east abutment to be relocated 1.5 m east of the original bridge. The abutment of the bridge is proposed to be raised approximately 0.7 m at the abutments. The new bridge deck will be flat while the original bridge had sagged of up to 0.8 m, therefore, the deck in the middle of the replacement bridge may be up to 1.5 m higher than the original.

To tie the replacement bridge into the Ahu Ahu carpark on the eastern side and coastal pathway on the western side, it has been recommended that the approach ramp be approximately 10 m (east) and 19 m (west).

The works will require removal and/or trimming of some trees and coastal shrubland vegetation around the western and eastern sides of the Whenuariki Stream. A small area of vegetation is being impacted on the eastern side (approximately 28 m²) comprised of potential five finger (*Pseudopanax arboreus*), karo (*Pittosporum crassifolium*), giant flax (*Phormium tenax*), Puka (*Meryta sinclairii*) and/or Pōhutukawa (*Metrosideros excelsa*) tree species. In addition, some grassland, shrubland and potentially duneland vegetation may be removed (approximately 80 m²). On the western side of the Whenuariki Stream approximately 70 m² of grassland and/or shrubland vegetation is expected to be impacted with the potential for removal of specific trees including giant flax and Pōhutukawa.

During works, the Whenuariki Stream may need to be temporarily trained using sandbags to prevent encroachment of water onto the construction site(s).

The total duration of works is expected to be approximately 6 weeks.

1.4 Overview of ecological effects

In summary, based on the known and estimated construction methodology outlined above, both project works will result in the loss and modification of the following ecological habitats:

- Small pockets of native/mixed vegetation will be removed or trimmed back along the coastal edge of the Weld Road headland (approximately 240 m²). Either side of the Whenuariki Stream, treeland vegetation will be removed or trimmed (28 m²). Grassland, shrubland and patches of dune land vegetation will also be removed around the western (approximately 70 m²) and eastern (approximately 80 m²) sides of the Whenuariki Stream to enable installation of the rock revetment and replacement of the Ahu Ahu bridge;
- Disturbance to the beach habitat within and above the high tide mark and permanent change to the substrate type from sandy upper-beach habitat to a rock revetment;

- Disturbance to Whenuariki Stream with a temporary and small-scale diversion to train the stream away from the construction site for the shared pathway construction and bridge replacement works;
- Permanent change to a small section of the western and eastern banks of the Whenuariki Stream (within the bridge abutment areas); and
- Change in the flood width of the Whenuariki Stream at the site of the proposed bridge replacement.

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2 Penguin Management Plan

2.1 Introduction

2.1.1 Plan purpose

This Penguin Management Plan (PMP) sets out the procedure and controls required to be implemented during the proposed works to address potential effects on kororā / little blue penguin (*Eudyptula minor*) in accordance with the requirements of the Wildlife Act (1953) and resource consent conditions, once granted. This PMP will be updated once project construction timeframes are confirmed, and consent conditions have been confirmed.

2.1.2 Definitions used in this Penguin Management Plan

Penguins. The little penguin or kororā (*Eudyptula minor*) is an indigenous bird species which is known to inhabit, breed and moult in the project area; this is the sole penguin species expected onsite. This PMP applies only to this penguin species, which is referred to as kororā throughout the PMP.

Penguin/ kororā burrows. This PMP will refer to kororā burrows, which encompasses burrows used for either moulting or loafing.

Kororā nests – This PMP will refer to kororā nests, which encompass burrows with nesting birds (i.e., nests with chicks or eggs).

Annual penguin burrow use timings. The key periods for kororā burrow use in New Zealand vary but are generally as follows:

- Burrow occupation: Possible all year round;
- Egg laying: July – November;
- Chick raising/fledging: August – February; and
- Adults moulting: January – April.

Adult moulting can occur any time between January and April and on occasion as early as December depending on food availability and body condition, taking two to three weeks. Throughout this time, the kororā fast and remain onshore in a burrow or similar. An individual may moult in the same burrow used for breeding. Most kororā are expected to have completed their moult by the end of March after which they will return to sea to feed and prepare for the next breeding season.

2.2 Summary of penguin values and effects

2.2.1 Penguin ecological values

Penguin ecological values were assessed through desktop assessments and verified during a field survey completed by a T+T ecologist on 29 October 2021 for the AECE1¹.

Online records and verbal notification from the Department of Conservation (DOC, August 2021), confirmed that kororā were/have been found historically within the project site and surrounding area.

The field survey also identified one potential penguin burrow within the project site beneath established vegetation around the coastal headland within loose sand habitat (Photograph 3.1; Figure 2.1). This burrow was later re-confirmed (October 2023) during a site walk over with the DabChickNZ penguin-detection dog (Conrad Pattison, pers comms).

Kororā have an ‘At Risk-Declining’ threat status and were assigned a ‘high’ ecological value (Table 2.1).

Table 2.1: Ecological values of penguin fauna potentially within the project site and the associated conservation threat status

Species	National threat status	Value	Presence within or nearby the bridge project site
Kororā / little blue penguin (<i>Eudyptula minor</i>)	Nationally At Risk – Declining.	High	Y – (habitat only, presence historically recorded within the project site)



Figure 2.1: Penguin burrow location outlined in blue.



Photograph 2.1: Penguin burrow identified on site from the site visit (both during the T+T site visit and with Dabchicks NZ penguin-detection dogs).

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2.2.2 Penguin ecological effects

Through the proposed removal and/or trimming of vegetation and construction works, potential adverse effects on kororā within or nearby the project site are likely to occur primarily through:

- Direct removal and/or long-term loss of vegetation offering potential food/refugia and habitat for kororā. This consists of native dominant canopy tree species as well as native/exotic shrubland species and upper beach habitat;
- Permeant change in available habitat for kororā roosting from current sandy-beach, high tide environment to hard-substrate rock revetment for the pathway construction;
- Potential disturbance to, injury and/or mortality of kororā during vegetation clearance/beach habitat removal and disturbance during site works, including the disturbance or loss of eggs and chicks if vegetation clearance is undertaken during penguin egg laying or chick raising timeframes (refer to section 2.1.2 for life cycle details); and
- Disturbance to kororā from dust, vibration, and noise during project works.

2.2.3 Statutory context

Kororā are a protected species under the Wildlife Act (1953), which is administered by the Department of Conservation (DOC). It is an offense to harm or cause injury to adults, chicks or eggs. A wildlife permit is required from DOC for the handling or movement of kororā and the Resource Management Act 1991 (RMA) affords protection to significant habitats of indigenous fauna.

Kororā are classified as At Risk – Declining, based on the New Zealand Threat Classification Series².

2.2.4 Responsibilities

2.2.4.1 Experts consulted in preparation of this Penguin Management Plan

This PMP has been prepared in consultation with and/or with review by the following experts/advisors:

- Rebekah Gee, Department of Conservation (DOC), New Plymouth marine biodiversity ranger;
- Conrad Pattison, New Plymouth District Council (NPDC), Parks Services Lead; and
- Joanna Sim, DabChickNZ, certified DOC penguin detection dog owner/trainer.
- Kat Smith, ecology consultant (penguin specialist) at T+T.

2.2.4.2 Roles and responsibilities

Roles and contact details for the proposed works are as follows:

Responsibilities involved with implementing the PMP

Title	Responsibility		
New Plymouth District council	Nigel Wilson – Project Manager	Consent holder, project owner. Overall responsibility for compliance with resource consent and implementation of this PMP.	Phone: 021 410 450 Email:Nigel.Wilson@npdc.govt.nz

² Robertson.H., Baird.K., Dowding.J., Elliott.G., Hitchmough.R., Miskelly.C., McArthur.N., O'Donnell.C., Sagar.P., Scofield.P., Taylor.G. (2021) New Zealand Threat Classification Series 19. Conservation status of New Zealand birds.

Title	Responsibility		
Contractor	Construction manager	<p>Contractor Implementation of this PMP, including:</p> <ul style="list-style-type: none"> • Pre-construction survey for penguins; • Daily penguin inspections, to be confirmed by the project ecologist; • Notifying T+T of any penguin sightings within 100 m of works; • If a kororā is identified within the construction area or within 10 m of it, DOC will be contacted to provide assistance; • If any occupied burrows found 10 m or more outside of the works, fence this off (exclusion zone including a 10 m circumference from the nest/burrow) while maintaining access to the sea for the bird; • Proposed mitigation actions; and • Keep a copy of this PMP on site at all times during works. 	
Tonkin + Taylor	Ecology consultant	<p>Ecology Consultant Undertake contractor briefing. Liaise between NPDC, contractor and DOC Notify DOC and NPDC of any penguin sightings.</p>	
DabChickNZ	Joanna Sim Penguin-specific detection dog handler	<p>Penguin expert Complete initial penguin burrow survey. Complete additional penguin nest/burrow monitoring in accordance with the PMP and contact from project ecologist.</p>	<p>Phone: 0210732023 Email: dabchicknz@gmail.com</p>
Department of Conservation	Rebekah Gee	<ul style="list-style-type: none"> • Advise on how to respond to sightings during works period. 	

Title	Responsibility		
		<ul style="list-style-type: none"> Carry out any penguin handling in event of injury, if required. <Drafting note – to be confirmed with Rebekah Gee prior to PMP finalisation>. 	

2.2.5 PMP implementation programme

The contractor and project engineer will inform the project ecologist of an approximate vegetation clearance staging plan. This will allow the project team to implement the PMP. It should be noted by the interfacing parties that due to the high demand for ecologists in the summer months and demands on associated DOC staff, that resource planning will need to be organised well in advance to avoid delays to the programme.

The contractor and project engineer will inform the project ecologist of the planned programme well prior to vegetation clearance and well prior to any excavation works (as above) that provide habitat for penguins.

2.3 Penguin effects management

2.3.1 Pre-works requirements

2.3.1.1 PMP review

This PMP will be provided to NPDC and TRC, as well as DOC prior to implementation.

2.3.1.2 Pre-construction survey

A thorough penguin detection survey and report are recommended immediately prior to commencement of construction works (dates yet to be confirmed) to identify/confirm the potential presence of any kororā burrows. This survey will be undertaken by a suitably qualified ecologist and DOC certified penguin detection dog. The survey will be conducted across the project site (and surrounding area if required) and should be planned to align with construction dates (once confirmed). Ideally the survey shall be undertaken on the morning of the day that construction is programmed to commence, and if not at least within one week of the commencement of work, as is reasonably practicable in accordance with the project ecologists' recommendations. It is also required that if works need to be undertaken within or continue into penguin breeding timeframes (July – November), an additional penguin detection survey be completed.

- If pre-construction surveys identify active kororā nests (i.e., with eggs or chicks), 2 weekly monitoring is recommended by a suitably qualified ecologist and follow up survey by a DOC certified penguin detection dog every 3 weeks. Please refer to section 2.3.2.3 for more detail.
- If pre-construction surveys identify kororā burrows then daily walkovers (as outlined in section 2.3.2.1) are recommended by a suitably qualified person before construction commences that day, throughout the project, to reduce the risk of accidental discovery.

2.3.1.3 Contractor briefing

A T+T representative will have one or more meetings with the contractor representative(s) and equipment operators to:

- Brief them on kororā and their nesting/burrow habits and signs that they are present;

- Confirm the location of known burrows (informed by pre-construction survey); and
- Confirm the procedure to be followed if a kororā or signs of a burrow are found.

2.3.2 Inspection and actions during works

2.3.2.1 Daily inspections for penguins

The contractor must:

- Inspect gear, machinery and the active site area each day prior to the start of work for the presence of kororā or recent signs of kororā habitation;
- Report any sightings of nesting or moulting kororā or recent signs of kororā habitation (for example feathers or guano) within the site and 100 m beyond to T+T/the project ecologist; and
- The contractor must keep alert to any sign of kororā throughout the day.

2.3.2.2 Timing of works

2.3.2.2.1 Timing of works during the year

Construction works should ideally be undertaken between **April to June**. This is to try to avoid the moulting and breeding season for the kororā, which occurs around **July – March** (inclusive) as they are the most active and most likely to be on land during this period, which increases the chances of accidentally encountering them during works (section 2.1.2 provides detail for indicative breeding and moulting cycles).

2.3.2.2.2 Timing of works during the day

Construction works will also be scheduled during **daylight hours**, from one hour after nautical dawn to one hour before nautical dusk. This is because there are lower incidences of kororā making their way onshore on land during the day, and instead leave their burrows prior to dawn to forage for food at sea and may not return until after dusk.

Note: Kororā can be found onshore at any time of the year and the day, even outside of the breeding / moulting season so it will be the final call of the project ecologist to determine the commencement of any construction works.

2.3.2.3 Actions in response to known kororā nests/burrows

If any active kororā or known kororā nests/burrows are identified within the construction footprint, an exclusion zone including a 10 m circumference from location of nest/burrow (dazzle spray/cones and rope) will be installed.

- Throughout the duration of construction works, the project ecologist will undertake weekly (or at a minimum fortnightly) monitoring of known kororā nests/burrows to determine when these are no longer occupied and active (i.e. after 4-6 weeks of no signs or at the project ecologist's discretion).
- In all instances, the project ecologist will make the final call-in regard to when areas are clear of kororā or active nests/burrows, and therefore when the works can commence.

Under no circumstances will breeding or moulting birds be handled or relocated.

2.3.2.4 Actions in response to kororā sightings

The primary action once construction work has commenced is to stop work immediately if a kororā, or recent signs of kororā are identified. In the event kororā or recent signs of kororā habitation (i.e., feathers or guano) are identified during construction, the following actions will be implemented:

- If a kororā is identified within the construction area during the daily walk-over/checks within the construction footprint or within 10 m of it, the contractor must stop works, contact T+T/project ecologist, who will advise DOC to assist with determining if the bird is moulting or temporarily using the burrow for resting. Works cannot commence until a minimum of 10 m exclusion zones is put in place, as advised by a penguin specialist within DOC and the project ecologist.
- Ensure any exclusion zones around kororā burrows allow them access to the sea.
- Any equipment required in and/or near the water, must be situated such that it does not obstruct the approach and departure paths between the burrow and the sea for kororā coming ashore at night between one hour before nautical dusk and one hour after nautical dawn. Water-based construction activity will be reduced to the greatest extent practicable.
- If a kororā are incidentally discovered within 10 -100 m of the construction area , the contractor will cordon off any occupied burrow so that the site is identifiable to all contractors staff, but which still maintains access to the sea for the birds (no blocking of kororā access to the sea or burrow). The contractor will then maintain a minimum distance of at least 10 m circumference from the burrow, to minimise disturbance to the birds during construction.

Figure 2.2 below outlines a process diagram that will govern the overall decisions and the process to be followed to manage any identified kororā. The management actions consider the key dates and management periods for kororā as outlined in Section 2.2.5.

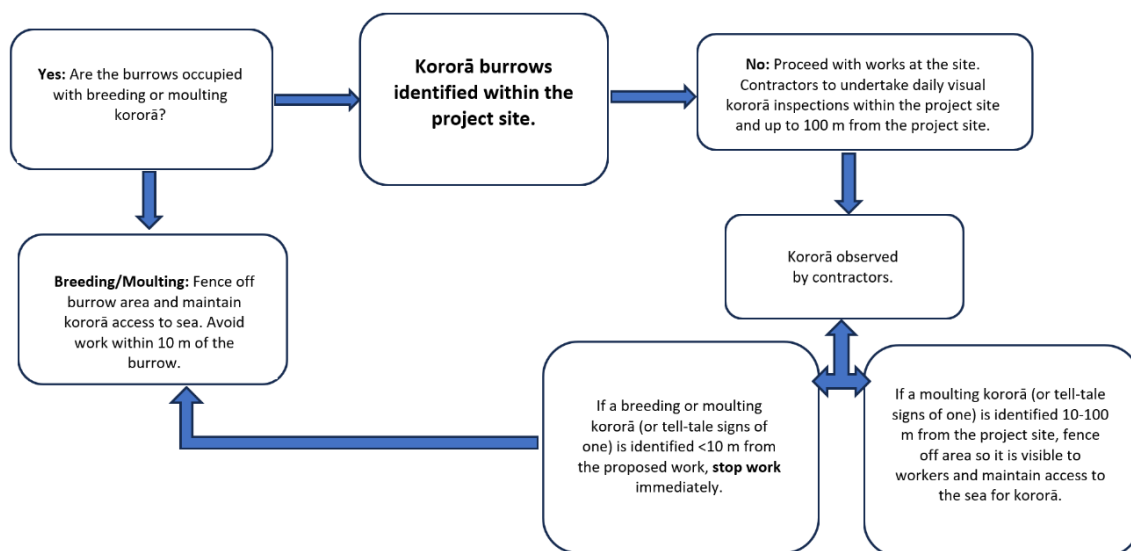


Figure 2.2: Process diagram for kororā management and mitigation of effects on kororā within the construction area.

2.3.2.5 Additional actions required by the Contractor

In addition to the pre-works requirements and the daily kororā inspections required by the Contractor, the following actions are required:

- **Nest box Installation** - The contractor will install nest boxes (number and location to be confirmed) above the revetment/and or surrounding this (whichever is most suitable habitat) in consultation with a DOC biodiversity ranger/penguin advisor/project ecologist to provide suitable habitat for kororā to use. These boxes will be permanent habitat following the completion of project. Nest Box design will be in accordance with Appendix A;
- **Signage** - The contractor will install signage to warn people about the presence of kororā and require dogs to be always on a (short) lead when accessing the seaward and landward side of the project site if kororā have been detected. Signage will be temporary during the construction works, with the wording to be confirmed by NPDC, TRC and DOC;
- **Fencing** - Prior to construction, the contractor will erect an exclusion fence to isolate, to the extent practicable, potential burrows outside the construction area. This will minimise disturbance to any birds that may be nesting near to active work sites; and
- **Pet Carrier** - The contractor will hold a 'pet carrier' on site at all times during project construction in the event of accidental discovery of a kororā during construction work. The carrier should include a lid on top so that the kororā can be placed into the carrier carefully. The carrier should have a cover to reduce stress to kororā during temporary containment.

2.3.2.6 Handling penguins (by permitted handler only)

Kororā may only be handled by an approved handler and holder of a DOC wildlife permit. In the event that kororā are identified on site via accidental discovery, the project ecologist will liaise with DOC (Refer to Section 2.3.3).

2.3.3 Accidental discovery protocols

If a Kororā roosts, nest, eggs and/or chicks are discovered during vegetation clearance by site contractors, the following protocols will be followed:

- The contractor will contact the project ecologist immediately, who will then contact a DOC representative. DOC representatives will be contacted in the following order:
 - Rebekah Gee - New Plymouth Marine Biodiversity Range (0272231551); and
 - Cameron Hunt – New Plymouth Senior Marine Ranger (0272461083).
 - 0800 DOCHOT - number to use if Rebekah and Cameron are unavailable, the call will get passed through to an appropriate ranger who will be able to assist.
- If a nest is found and deemed to be active, then the nest and immediate surrounding habitat (within 10 m from nests) are to be left in situ, clearly marked, and cordoned off (i.e., exclusion zone) from any works and machinery until nesting birds have fledged or nests naturally abandoned;
- No works or personnel are to enter within the exclusion zone until chicks have fledged or the nest has been naturally abandoned, as confirmed by the project ecologist and/or DOC;
- Once the area is deemed free of active nests/nesting is complete by the project ecologist and/or DOC, vegetation clearance or works may continue; and
- DOC staff may be available to assist with penguin handling in emergency situations or in the event of unexpected discovery of penguins in the project area.

2.3.4 Accidental bird injury and mortality during construction

In the event of finding a dead or injured penguin during the proposed pathway construction and/or bridge replacement works, the following procedures will be implemented:

- Kororā may only be handled by an approved handler and holder of a DOC wildlife permit. Therefore, injured penguins are only to be handled under the direction of the project ecologist/DOC representative;
- Any accidental penguin injuries and/or mortality will be reported to the project ecologist no longer than two hours after the injured or dead bird is found; and
- The local Department of Conservation (DOC) office or DOC hotline (if after hours) will be contacted no more than two hours after the project ecologist is informed. The DOC hotline is 0800 DOCHOTLINE (0800 362 468).

DOC and veterinary advice (New Plymouth Veterinary Group) shall be sought in conjunction with the project ecologist when considering the rehabilitation requirements of any injured penguins (for example, legislative requirements will need to be considered). If the penguin is dead or euthanised by the vet, it must be taken to the local DOC office as soon as practicable.

2.3.5 Adaptive management

To achieve the desired outcome (managing effects on kororā), changes may need to be made to this PMP. The rationale behind any changes made must be based on best practice management techniques achieving the same desired outcome as mentioned above. If any substantive changes are required, NPDC, TRC and DOC will be notified in writing (email or letter) prior to implementing any changes.

2.3.6 Reporting

A project report will be supplied to the project owner and project engineer by the project ecologist within three months of site works being completed for both the pathway and bridge replacement works. These project reports will contain a summary of the following:

The name and qualifications of the person carrying out the pre-construction kororā survey(s) across the project site.

- Date and time of identification and identifier.
- Number of nests and type of nest (i.e. revetment, nest box, earth burrow, etc).
- Number of chicks/eggs and/or number of adults.
- Nest activity (Loafing adult(s), with eggs/chicks, moulting, guano/feather present, empty, not visible)).
- The number of any accidental injury and/or mortality events that occurred during construction of the pathway and bridge replacement.
- The GPS location of any observed kororā burrows or nests, and dates of when the above programmes were implemented; and
- Measures taken to avoid, minimise or mitigate adverse effects on breeding or nesting sites.

3 Applicability

This report has been prepared for the exclusive use of our client New Plymouth District Council, with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose, or by any person other than our client, without our prior written agreement.

We understand and agree that our client will submit this report as part of an application for resource consent and that New Plymouth District Council and Tasman Regional Council as the consenting authorities will use this report for the purpose of assessing that application.

Tonkin & Taylor Ltd
Environmental and Engineering Consultants

Report prepared by:

Authorised for Tonkin & Taylor Ltd by:

.....

Ashleigh Johnston
Marine Ecologist

.....

Richard Reinen-Hamill
Project Director

Technically reviewed by Susan Jackson, Senior Marine Ecologist

ASWA
t:\auckland\projects\1017346\1017346.3000\workingmaterial\ecology\s92 response\27.02.2024_weld road_t+t draft pmp_s92 response_pm.docx

Appendix A Penguin Nest Box Design



Instructions for Building Blue Penguin Nest Box

Based on Plan Prepared by Vince Waanders
Modified by Mike Rumble, March 2015

BEFORE YOU START!!!

- READ these instructions CAREFULLY before you put EACH box together, and re-read them BEFORE you move to the next Step.
- Do NOT move to the next step until you have checked the one you have just completed to make sure it is correctly finished.
- Check you have these materials:
 - Box pieces (9): 1 Tunnel Side, 1 Tunnel Roof, 1 Box Roof, 1 Uncut Box Side, 1 Cut Box Side, 1 Box Front, 1 Box Back, 1 Box Lid, and 1 Lid Stopper
 - Nails: 8 short nails, and 23 long nails
 - Glue: Construction glue (cartridge) – should be with the supervisor
- **WARNING**: Make sure you use the correct size of nails in the right areas. We don't want penguins to get hurt from nails sticking out!!!

**Get your box checked as soon as you finish building it
then give your box a NAME and add a SHORT story or a picture**

TWO Very Important Messages!!!

Left and Right Tunnels

We need nest boxes with the entrance tunnel on the LEFT and the RIGHT sides. All you have to do is make sure the side of the side of the Box Front with "Inside" written on it in IS placed INSIDE the box. The box packs also have been set up to help achieve that requirement.

Gluing and Nailing

The Tunnel Sides and Tunnel Roof are the only parts where GLUING and NAILING is required



Tunnel on LEFT Side

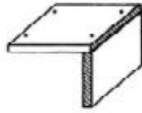


Tunnel on RIGHT Side

NOTE: All nail holes are pre drilled. Place nails in pre drilled holes only!

2 long nails

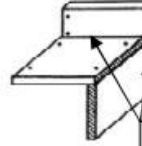
Insert nails into tunnel roof, before gluing and nailing it to the tunnel side



NOTE: Make sure tunnel side and roof DON'T overlap at this end so that they will fit flush with the edge of the box front

Step 1:

4 short nails
5 long nails



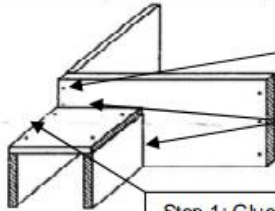
Step 1: Insert 4 short nails **INSIDE** the box front where it will join the tunnel area, and 5 long nails **OUTSIDE** where the box front will join both box sides

Step 2: Add glue to edges of tunnel roof and tunnel side and where they join the box front **BUT** don't nail them in place until Step 3.

Step 2:

2 long nails (for tunnel roof)

Step 2: Nail the box front to the box side and **THEN** the ends of the tunnel roof

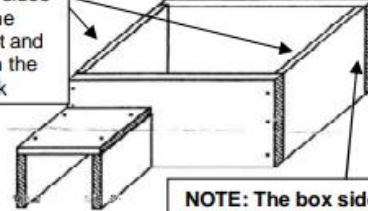


Step 1: Glue and nail the tunnel roof to the box side

Step 3:

6 long nails

Nail the box sides to the front and then the back

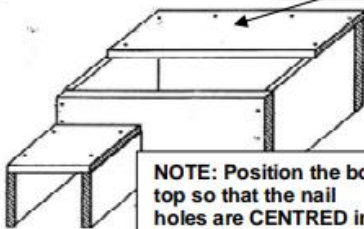


NOTE: The box sides **MUST** be nailed **INSIDE** the box back

Step 4:

8 long nails

Box top

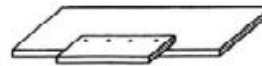


NOTE: Position the box top so that the nail holes are **CENTRED** in the **MIDDLE** of the edge on the box back

Step 5:

4 short nails

Nail the Lid Latch to the underside of the box lid



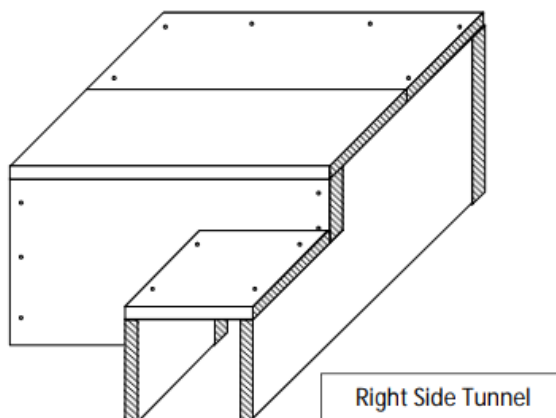
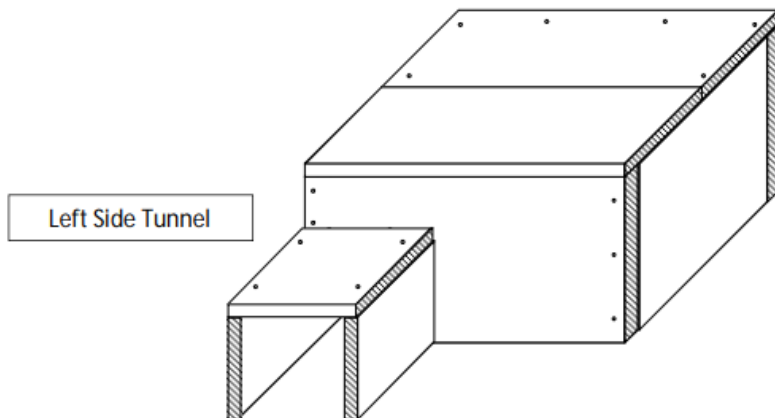
Personalize your box!! Grab a pen and name your box...

Step 6:

vince.waanders@paradise.net.nz

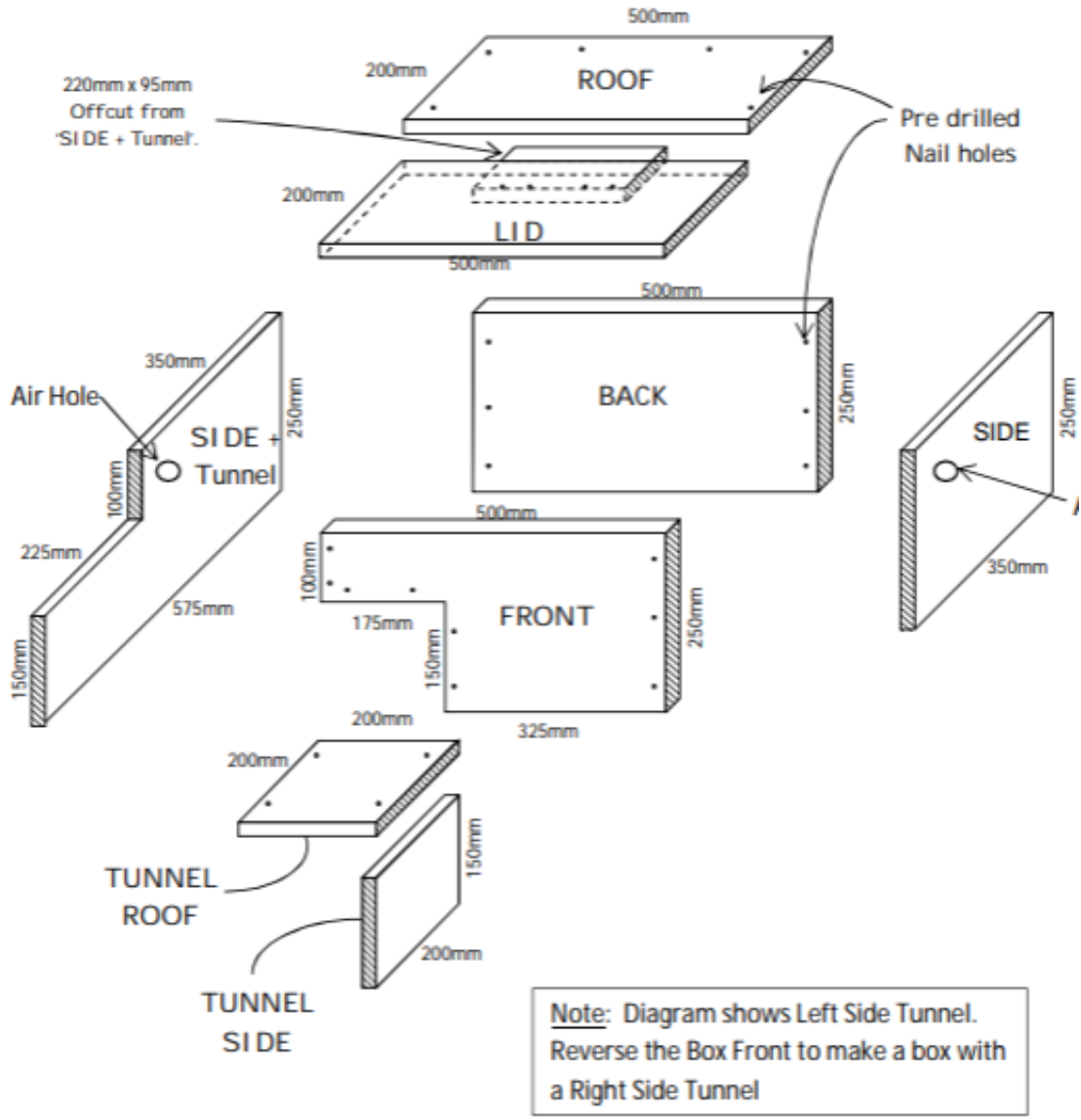
Little Penguin Nest Box

Modified design as used on Matiu/Somes Island
Modifications developed by Vince Waanders March 2011



Little Penguin Nest Box

Modified by Vince Waanders March 2011



ALL TIMBER: 25mm thickness. H3 Treated. Rough sawn. Pinus Radiata.	
ROOF	500mm x 200mm
LID	500mm x 200mm
FRONT	500mm x 250mm
BACK	500mm x 250mm
SIDE	350mm x 250mm
SIDE - Tunnel	575mm x 250mm
TUNNEL ROOF	200mm x 200mm
TUNNEL SIDE	200mm x 150mm

TIMBER REQUIREMENTS:		
	Timber for 1 Box:	Timber for 30 boxes:
250mm x 25mm	2025mm	60.75 meters
200mm x 25mm	1300mm	39.00 meters
150mm x 25mm	220mm	06.60 meters

LBP Boxes: Trimming

Box Back: 6 evenly spaced nail holes (see box plan)

Box Roof: 8 evenly spaced nail holes – 4 where it joins the box back and 2 for each box side

Short Box Side (no tunnel): 1x25mm air hole, no nail holes

Long Box Side (with tunnel): Cut out 225x100 section, 1x25mm air hole, no nail holes

Note: 1. The off-cut from the box side becomes the Lid Latch

Box Lid: No nails

Box Front: Cut out 175x150 section and 9 nail holes (see box plan)

Note: 1. Half the box fronts to be LEFT-side Tunnel; half to be RIGHT-side.

2. Adding the word "Inside" on the inside of each box front will help the box builders.

Tunnel Side: No nails

Tunnel Roof: 4 nail holes (two on each side)

Lid Latch: 4 nail holes off-set in pairs (latch made out of off-cut from box side)



Appendix B Drawings

NEW PLYMOUTH DISTRICT COUNCIL WELD ROAD COASTAL WALKWAY

Tender Issue

DRAWING

Rev Title

- | | | |
|-------------------|---|----------------------------------|
| ● 1017346.3000-01 | A | DRAWING LIST AND SITE LOCATION |
| ● 1017346.3000-05 | A | EXISTING SITE PLAN AND WORK AREA |
| ● 1017346.3000-10 | A | PROPOSED SITE PLAN |
| ● 1017346.3000-20 | A | TYPICAL SECTIONS |
| ● 1017346.3000-30 | A | WALKWAY LONGSECTION |
| ● 1017346.3000-41 | A | WALKWAY CROSS SECTIONS SHEET 1 |
| ● 1017346.3000-42 | A | WALKWAY CROSS SECTIONS SHEET 2 |



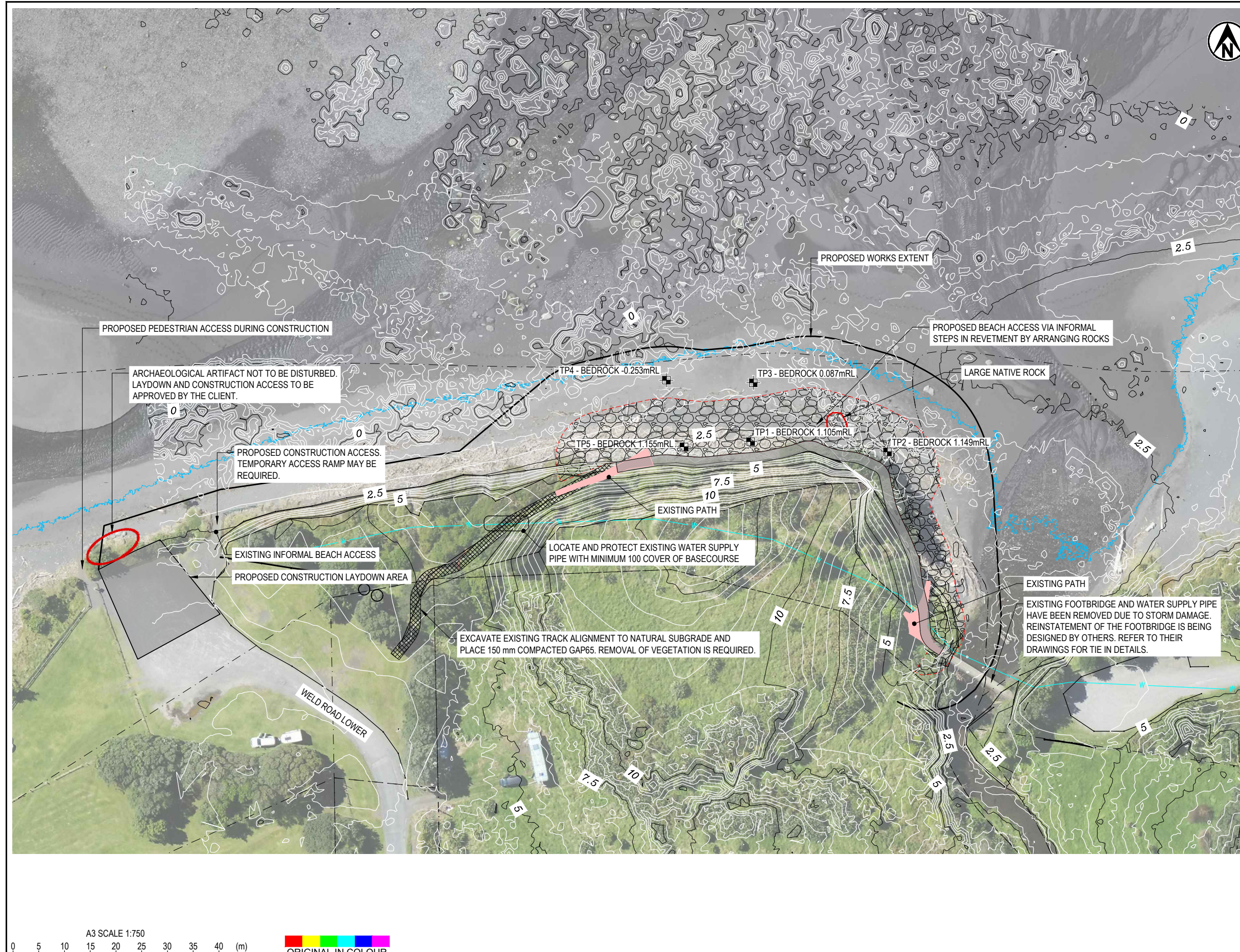
TOPOMAP SOURCED FROM LINZ DATA SERVICE <HTTPS://DATA.LINZ.GOVT.NZ/LAYER/50767-NZ-TOPO50-MAPS/>, LICENSED BY LINZ FOR RE-USE UNDER THE CREATIVE COMMONS ATTRIBUTION 4.0 NEW ZEALAND LICENCE (CC BY 4.0). ACCESSED 11/02/2022.

● Denotes drawing this issue: 31/10/2023



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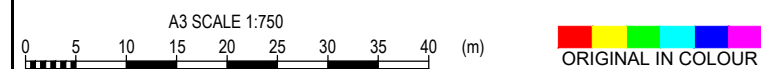
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- NOTES:**
1. ALL DIMENSIONS IN MILLIMETRES UNLESS NOTED OTHERWISE.
 2. AERIAL PROVIDED BY DRONE TECHNOLOGIES NZ LTD ON 3/12/2021.
 3. EXISTING GROUND CONTOURS PROVIDED BY WSP, FLOWN 27/03/2023.
 4. CONTRACTOR TO CONFIRM LOCATION OF ANY AND ALL SERVICES ON SITE AND TO PROTECT DURING CONSTRUCTION.
 5. WATER PIPE LOCATION SOURCED FROM NPDC GIS VIEWER AND MUST BE CONFIRMED ON SITE BY THE CONTRACTOR.
 6. HEIGHTS ARE IN TERMS OF NZVD2016.
 7. COORDINATES ARE IN TERMS OF NZTM2000.

LEGEND

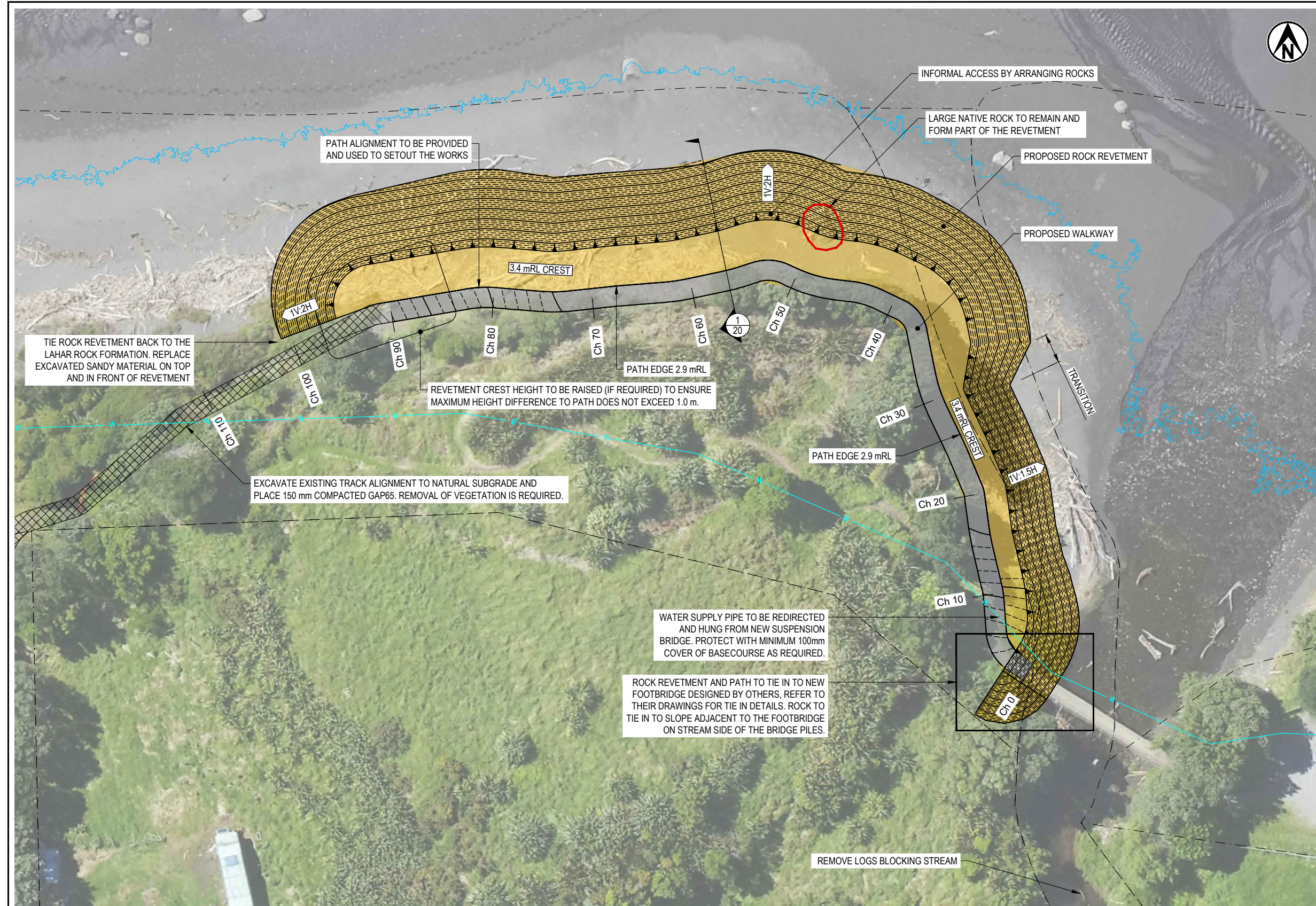
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	PROPOSED WORKS EXTENT
	CONTOUR 2.5m INTERVAL
	CONTOUR 0.5m INTERVAL
	MHWS 1.455mRL
	EXISTING PATH
	PROPOSED CONCRETE PATH
	PROPOSED ROCK REVETMENT
	PROPOSED GAP65 PATH
	EXISTING WATER SUPPLY PIPE
	TP1 BEDROCK 1.0mRL TESTPIT / MEASURED BEDROCK RL



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A	TENDER ISSUE	TJ	CHK	DATE	DESIGNED	ANBR	Feb.22	DRAWING STATUS
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					DESIGNED			DRAWING STATUS
					DESIGN CHECKED			TENDER ISSUE
					DRAWING CHECKED			PROJECT PHASE
					NOT FOR CONSTRUCTION			DETAILED DESIGN
					THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION PURPOSES UNLESS SIGNED AS APPROVED			
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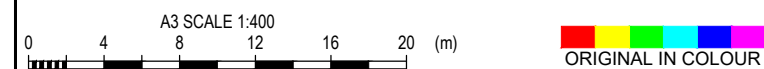
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PROJECT	WELD ROAD COASTAL WALKWAY
TITLE	EXISTING SITE PLAN AND WORK AREA
SCALE (A3)	1:750
DWG No.	1017346.3000-05
REV	A



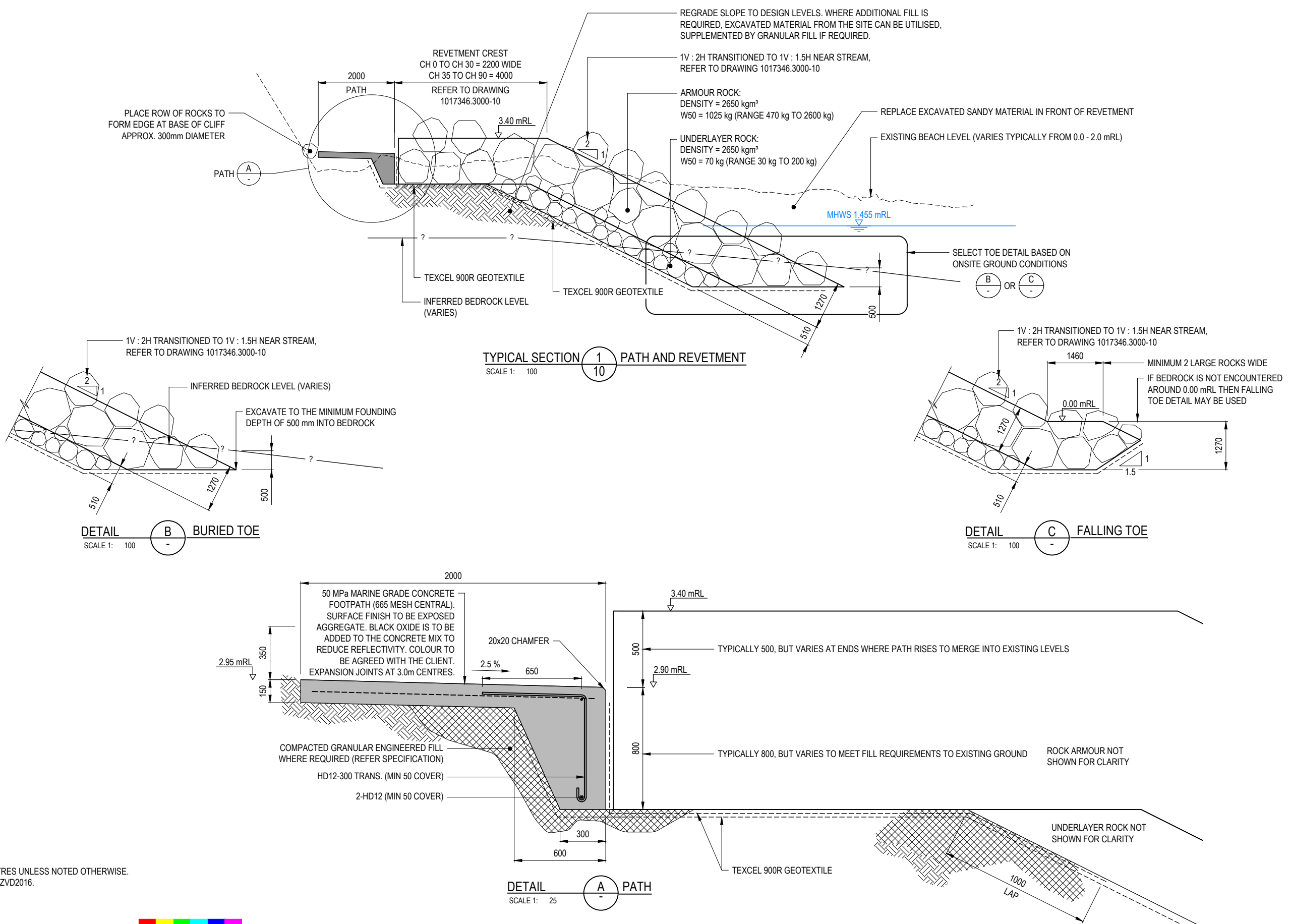
- NOTES:
1. ALL DIMENSIONS IN MILLIMETRES UNLESS NOTED OTHERWISE.
 2. AERIAL PROVIDED BY DRONE TECHNOLOGIES NZ LTD ON 3/12/2021.
 3. EXISTING GROUND CONTOURS PROVIDED BY WSP, FLOWN 18/01/2022.
 4. CONTRACTOR TO CONFIRM LOCATION OF ANY AND ALL SERVICES ON SITE AND TO PROTECT DURING CONSTRUCTION.
 5. WATER PIPE LOCATION SOURCED FROM NPDC GIS VIEWER AND MUST BE CONFIRMED ON SITE BY THE CONTRACTOR.
 6. HEIGHTS ARE IN TERMS OF NZVD2016.
 7. COORDINATES ARE IN TERMS OF NZTM2000.

LEGEND

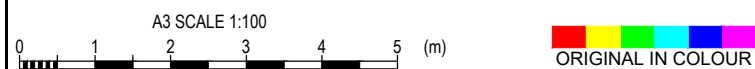
- EXISTING PROPERTY BOUNDARY
- FINISHED CONTOUR 0.1m INTERVAL
- FINISHED CONTOUR 0.5m INTERVAL
- MHWs 1.455mRL
- ▲ TOP OF REVETMENT CREST BATTER
- PROPOSED CONCRETE PATH
- PROPOSED ROCK REVETMENT
- PROPOSED GAP65 PATH
- EXISTING WATER SUPPLY PIPE



<p>Exceptional thinking together www.tonkintaylor.co.nz</p>	<p>A TENDER ISSUE</p>	TJ			<p>DESIGNED ANBR Feb.22</p> <p>DRAWN CYAX Feb.22</p> <p>DESIGN CHECKED</p> <p>DRAWING CHECKED</p>	<p>DRAWING STATUS</p> <p>TENDER ISSUE</p> <p>PROJECT PHASE</p> <p>DETAILED DESIGN</p>	<p>CLIENT NEW PLYMOUTH DISTRICT COUNCIL</p> <p>PROJECT WELD ROAD COASTAL WALKWAY</p>	
	<p>REV DESCRIPTION</p>	CAD	CHK	DATE	<p>APPROVED</p> <p>DATE</p>	<p>NOT FOR CONSTRUCTION</p> <p>THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION PURPOSES UNLESS SIGNED AS APPROVED</p>	<p>TITLE</p> <p>PROPOSED SITE PLAN</p>	
<p>SCALE (A3) 1:400</p>							<p>DWG No. 1017346.3000-10</p>	<p>REV A</p>



NOTES:
1. ALL DIMENSIONS IN MILLIMETRES UNLESS NOTED OTHERWISE.
2. HEIGHTS ARE IN TERMS OF NZVD2016.

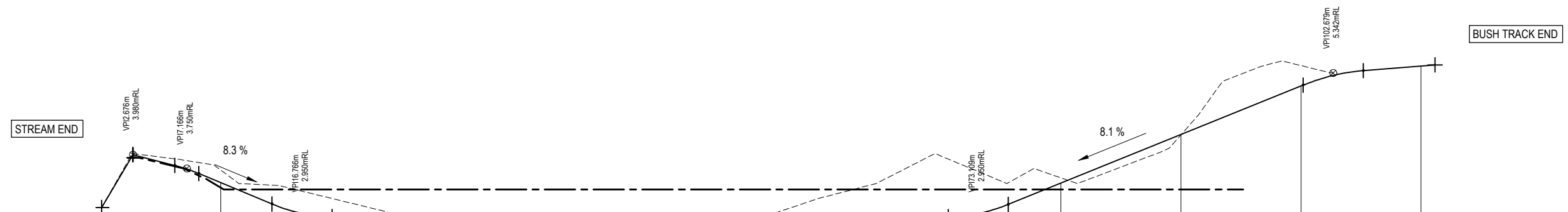


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DRAWING CHECKED			DETAILED DESIGN			
NOT FOR CONSTRUCTION						
THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION PURPOSES UNLESS SIGNED AS APPROVED						
REV	DESCRIPTION	CAD	CHK	DATE	APPROVED	DATE
A	TENDER ISSUE		TJ			

CLIENT	NEW PLYMOUTH DISTRICT COUNCIL
PROJECT	WELD ROAD COASTAL WALKWAY
TITLE	TYPICAL SECTIONS
SCALE (A3)	AS SHOWN
DWG No.	1017346.3000-20
REV	A

NOTES:

1. ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.
2. EXISTING GROUND SURFACE PROVIDED BY WSP (RECEIVED 27/03/2023).
3. HEIGHTS ARE IN TERMS OF NZVD2016.

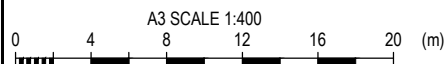


Datum RL(m) 0

2023 SURVEYED RL (m)		3.72	3.21	2.95	1.0	2.51	3.26	3.95	3.59	4.31	5.47	
ROCK CREST RL (m)		3.43	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	
FINISHED PATH RL (m)		3.51	2.95	2.95	2.95	2.95	2.95	2.95	3.51	4.32	5.12	5.46
CHAINAGE (m)	0.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.00	110.00

LONGITUDINAL SECTION: FOOTPATH LANDWARD EDGE

Horizontal Scale 1:400
Vertical Scale 1:80

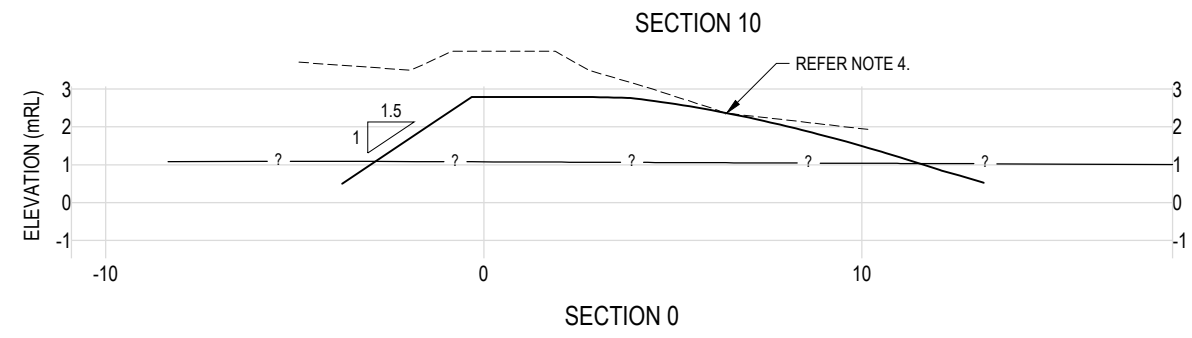
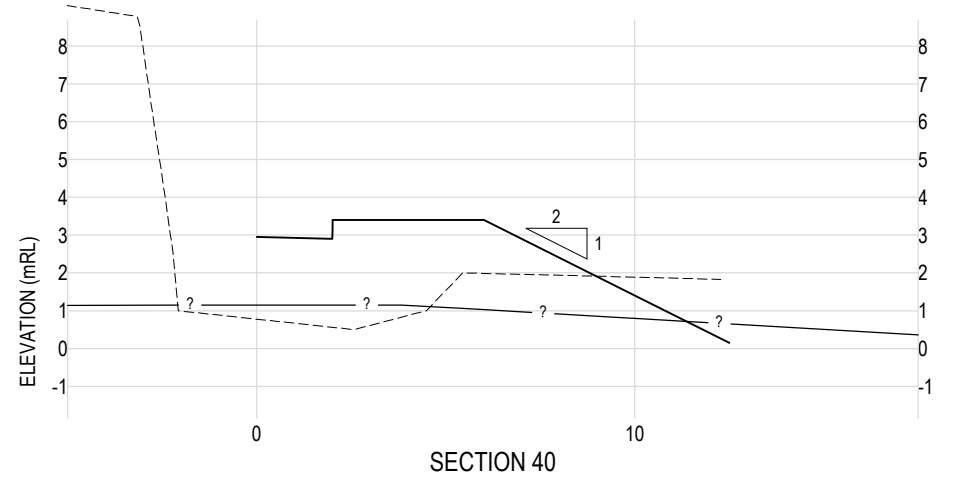
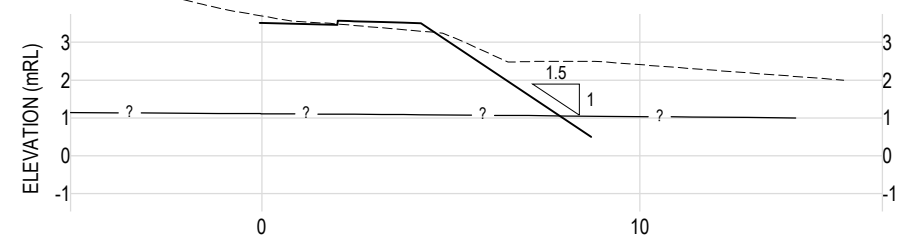
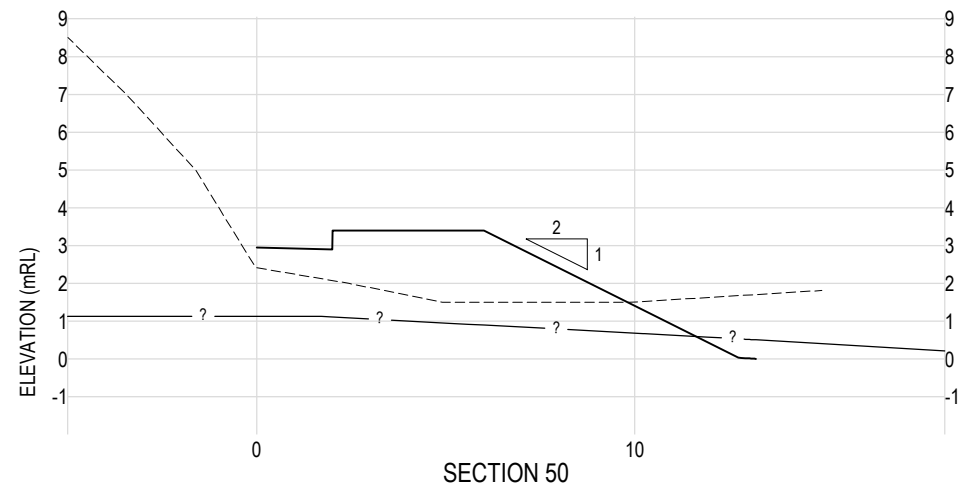
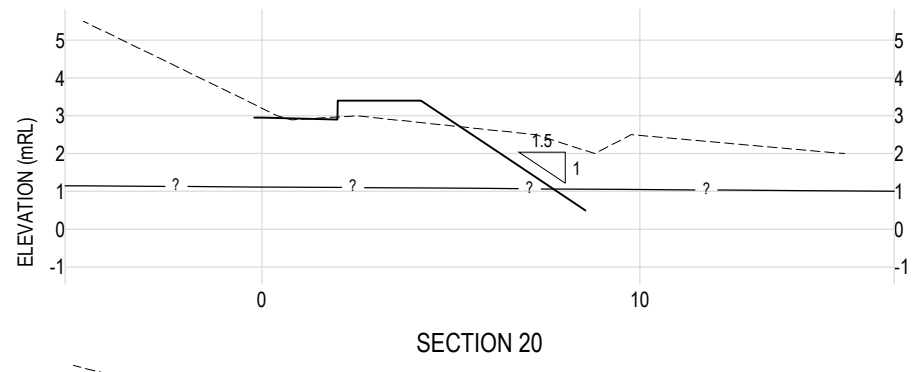
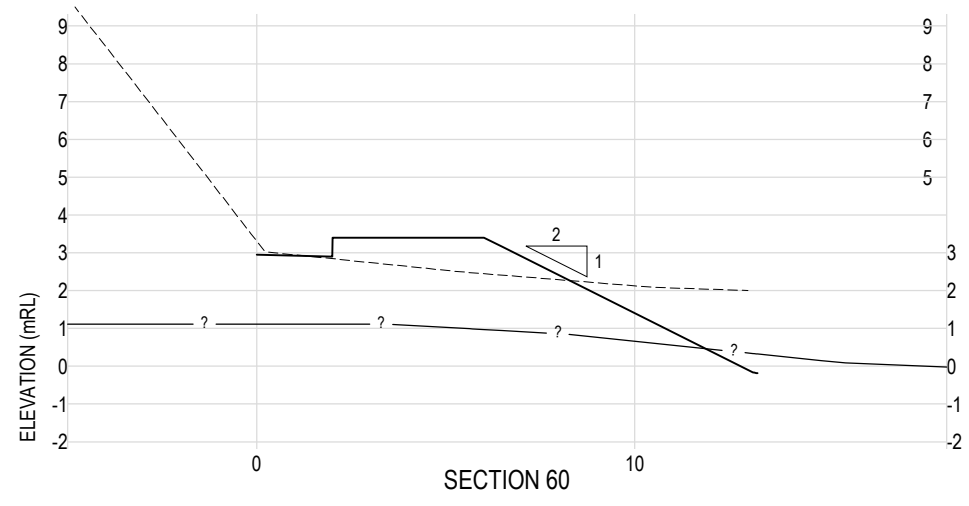
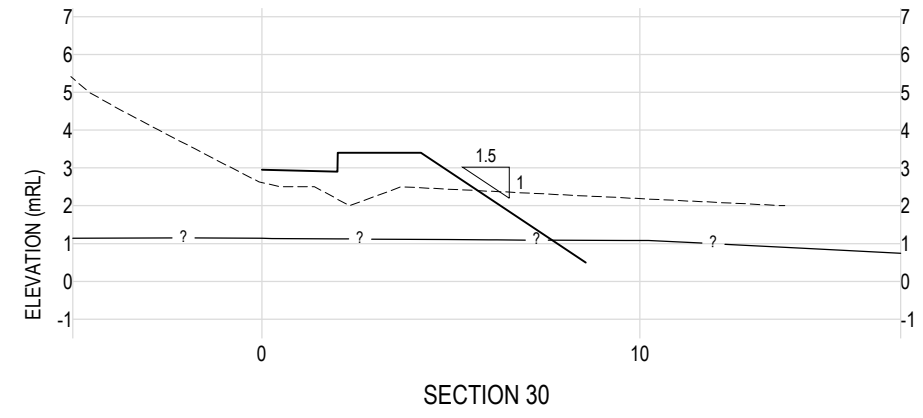


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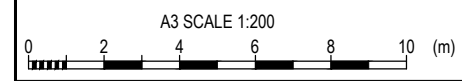
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						DESIGN CHECKED			PROJECT PHASE	TITLE				
						DRAWING CHECKED			DETAILED DESIGN	WALKWAY LONGSECTION				
						NOT FOR CONSTRUCTION			THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION PURPOSES UNLESS SIGNED AS APPROVED					
REV	DESCRIPTION	CAD	CHK	DATE	APPROVED	DATE			SCALE (A3)	AS SHOWN	DWG No.	1017346.3000-30	REV	A

LEGEND

———— FINISHED PATH AND REVETMENT SURFACE
 — ? — BEDROCK (INFERRED)
 - - - - - 2023 GROUND SURFACE



- NOTES:**
1. ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.
 2. EXISTING GROUND SURFACE PROVIDED BY WSP (RECEIVED 27/03/2023).
 3. HEIGHTS ARE IN TERMS OF NZVD2016.
 4. FINISHED SURFACE SLOPE 1V : 2H TRANSITIONED TO 1V : 1.5H NEAR STREAM, AND CREST WIDTH REDUCED FROM 4.0m TO 2.2m, REFER TO DRAWING 1017346.3000-10.

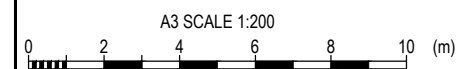
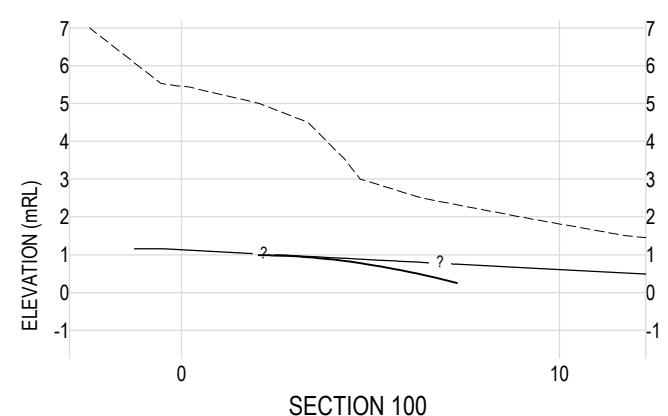
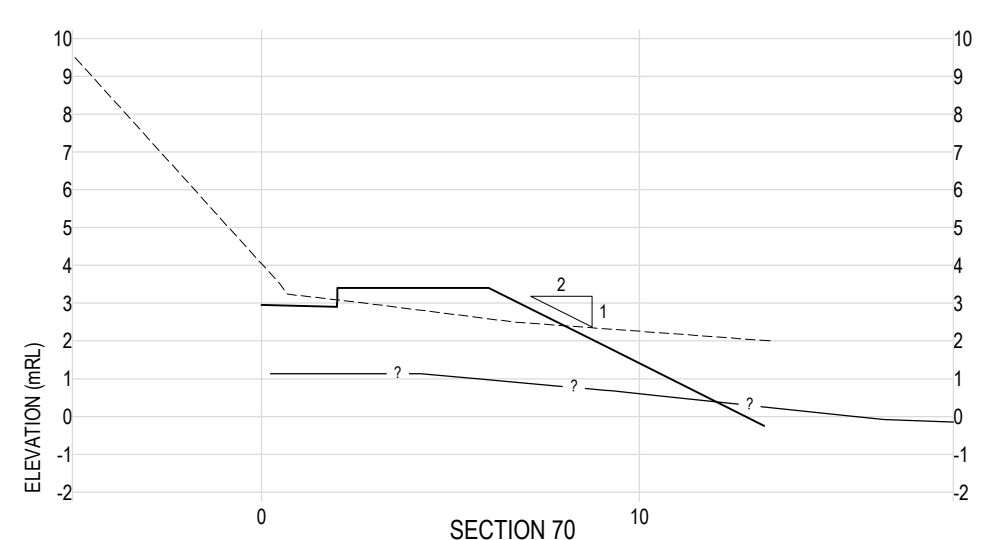
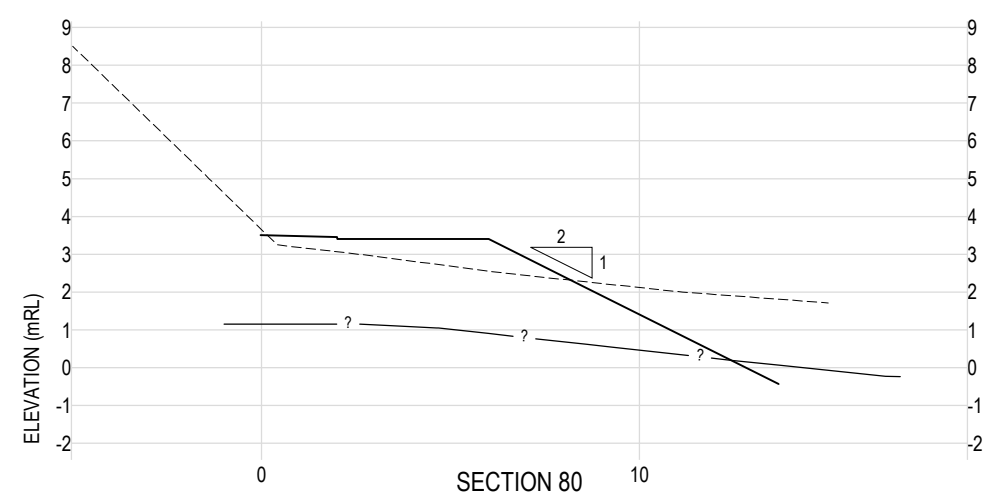
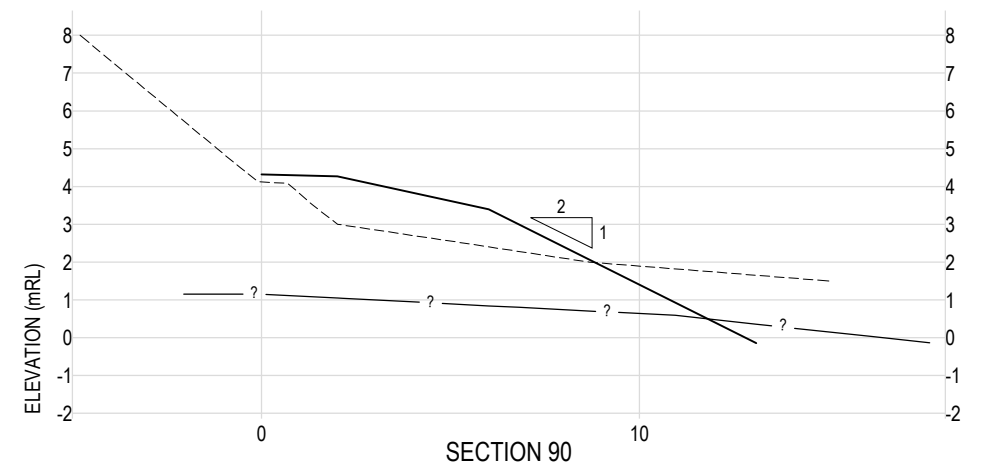


A	TENDER ISSUE	TJ	CHK	DATE	DESIGNED	ANBR	Feb.22	DRAWING STATUS
	DESIGN CHECKED				CYAX	Feb.22	TENDER ISSUE	
REV	DESCRIPTION	CAD	CHK	DATE	APPROVED	DATE	NOT FOR CONSTRUCTION <small>THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION PURPOSES UNLESS SIGNED AS APPROVED</small>	

CLIENT	NEW PLYMOUTH DISTRICT COUNCIL		
PROJECT	WELD ROAD COASTAL WALKWAY		
TITLE	WALKWAY CROSS SECTIONS SHEET 1		
SCALE (A3)	1:200	DWG No.	1017346.3000-41
REV	A		

LEGEND

———— FINISHED PATH AND REVETMENT SURFACE
 — ? — BEDROCK (INFERRED)
 - - - - - 2023 GROUND SURFACE



- NOTES:**
1. ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE.
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A	TENDER ISSUE	TJ	CHK	DATE	DESIGNED	ANBR	Feb.22	DRAWING STATUS
	DESIGN CHECKED				CYAX	Feb.22	TENDER ISSUE	
REV	DESCRIPTION	CAD	CHK	DATE	APPROVED	DATE	NOT FOR CONSTRUCTION <small>THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION PURPOSES UNLESS SIGNED AS APPROVED</small>	

CLIENT	NEW PLYMOUTH DISTRICT COUNCIL		
PROJECT	WELD ROAD COASTAL WALKWAY		
TITLE	WALKWAY CROSS SECTIONS SHEET 2		
SCALE (A3)	1:200	DWG No.	1017346.3000-42
REV	A		

Whenuariki Stream bridge

20.9m Suspension bridge

DESIGN PARAMETERS	
Standard	SNZ HB 8630:2004
User Group	2. Short Stop Traveller
Deck Length	20.9m
Deck Design Load	10 Person
Fall Surface	Favourable
Effective Fall Height	~3m
Barrier Type	A
Load Test	TBC

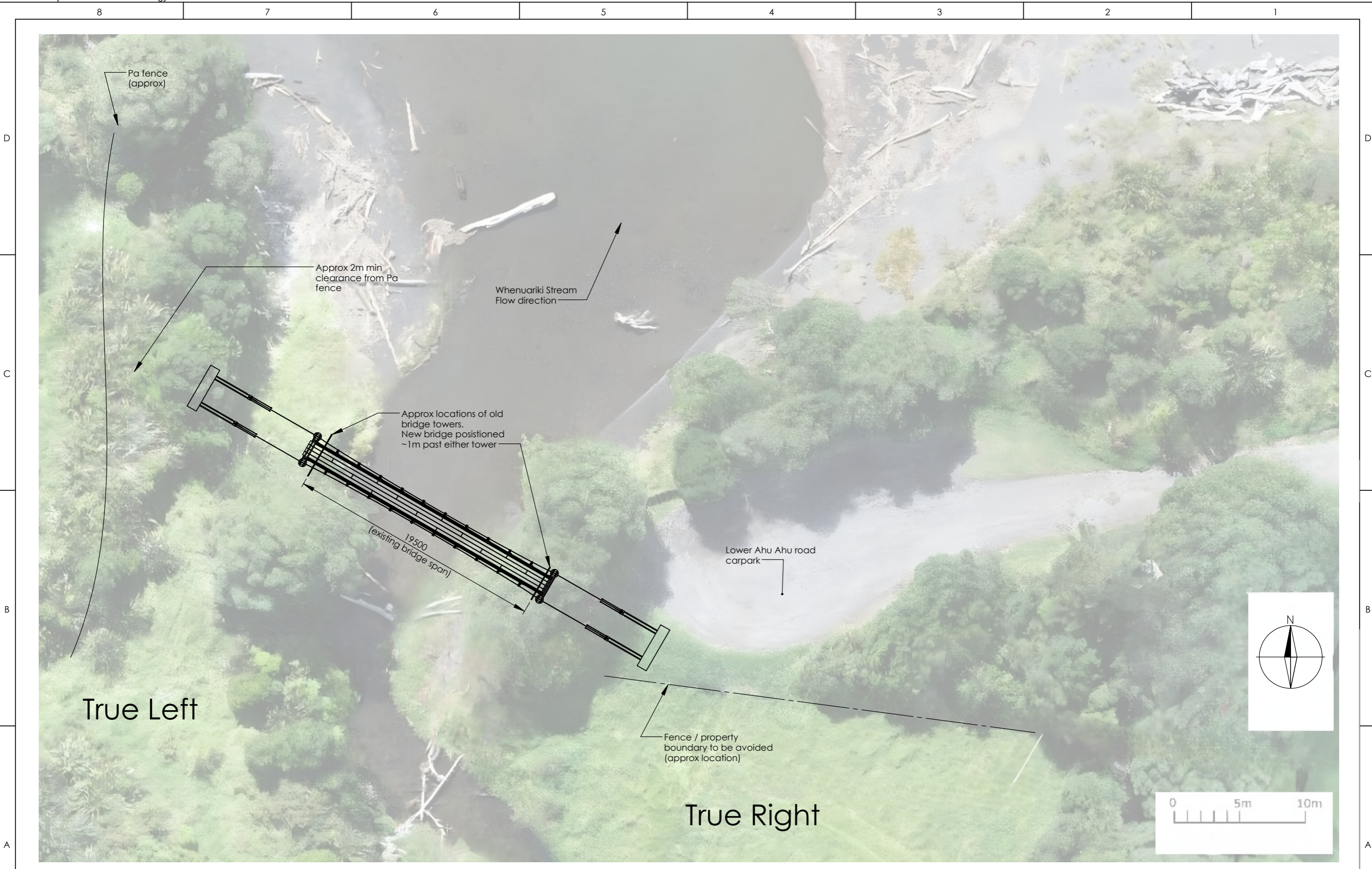


REVISION TABLE		
REV.	DESCRIPTION	DATE
A	Concept for Resource Consent	12/10/2023



Bridge Location

5669555N, 1679915E
 S 39°07'10.2", E 173°55'28.0"
 -39.11950, 173.92444



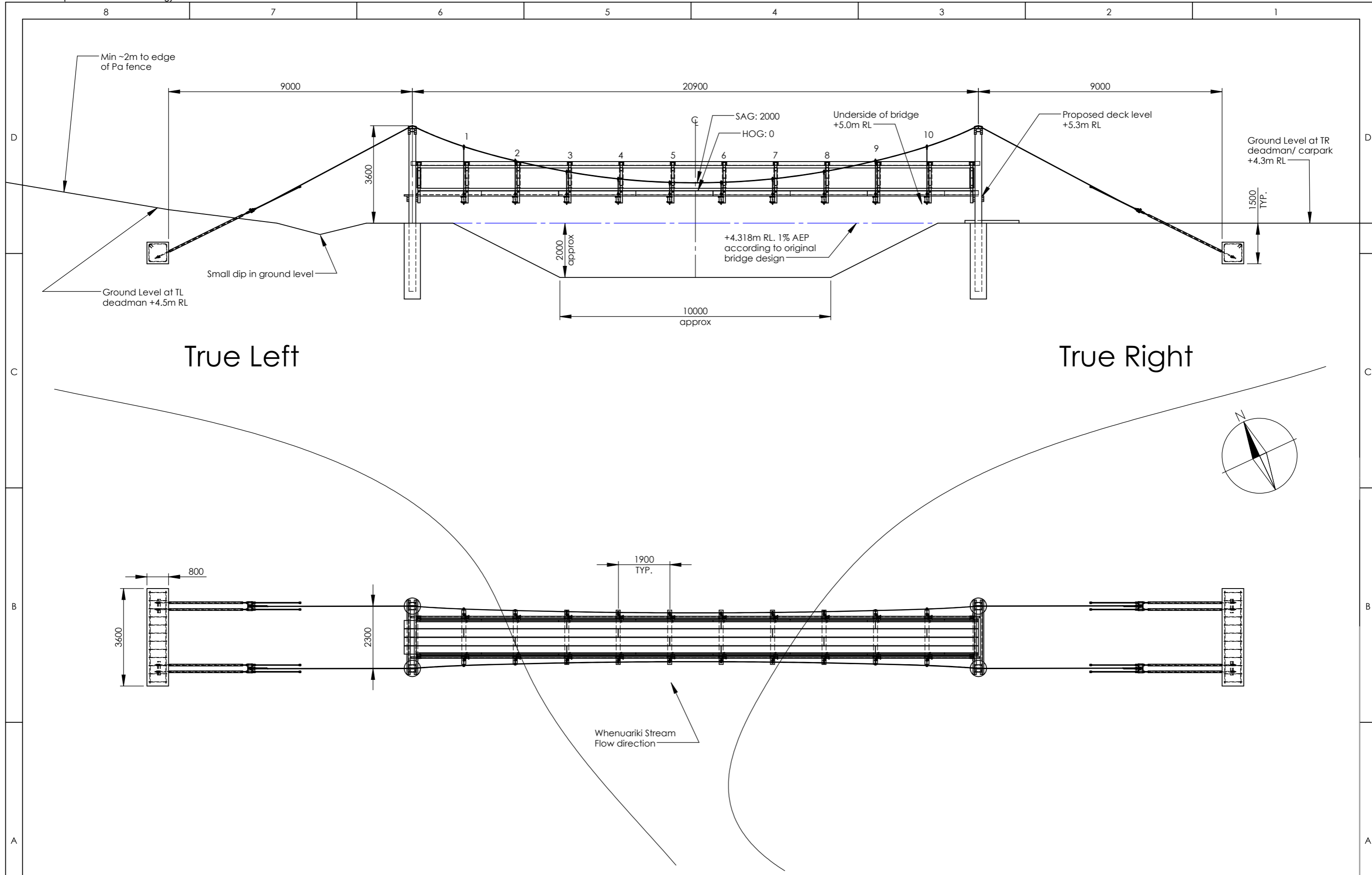
Client	NPDC
Project	Whenuariki Stream Bridge


Sheet Title	Concept Drawing Set
	Overhead Shot

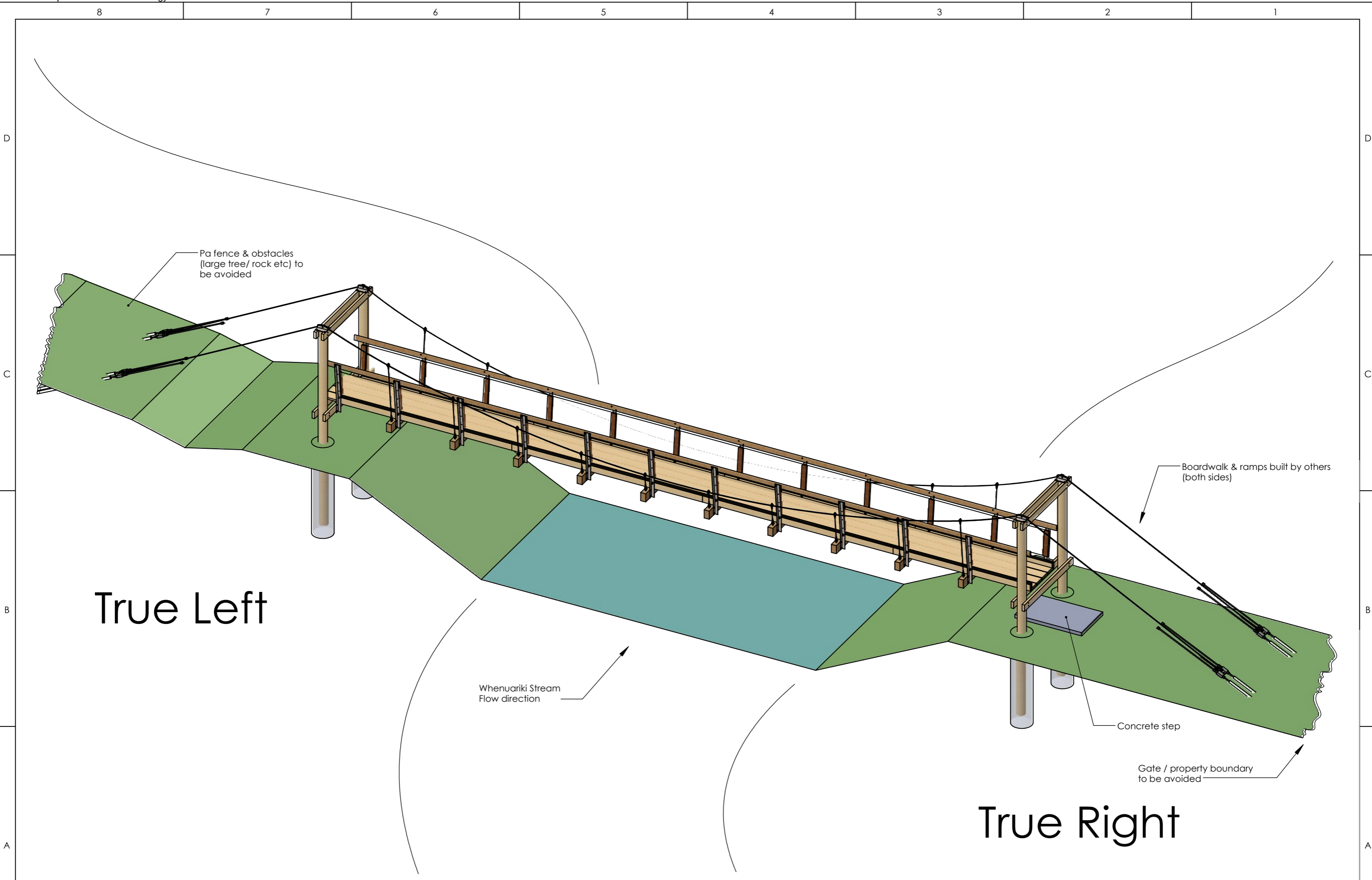
Location	Lower Ahu Ahu Rd
Drawing Number	AA-1889-DWG-0-2



Design	DC
Checked	MW
Approved	
Status	For RC
Drawn	DC
Date	12/10/2023
Scale	1:260 on A3
Revision	A




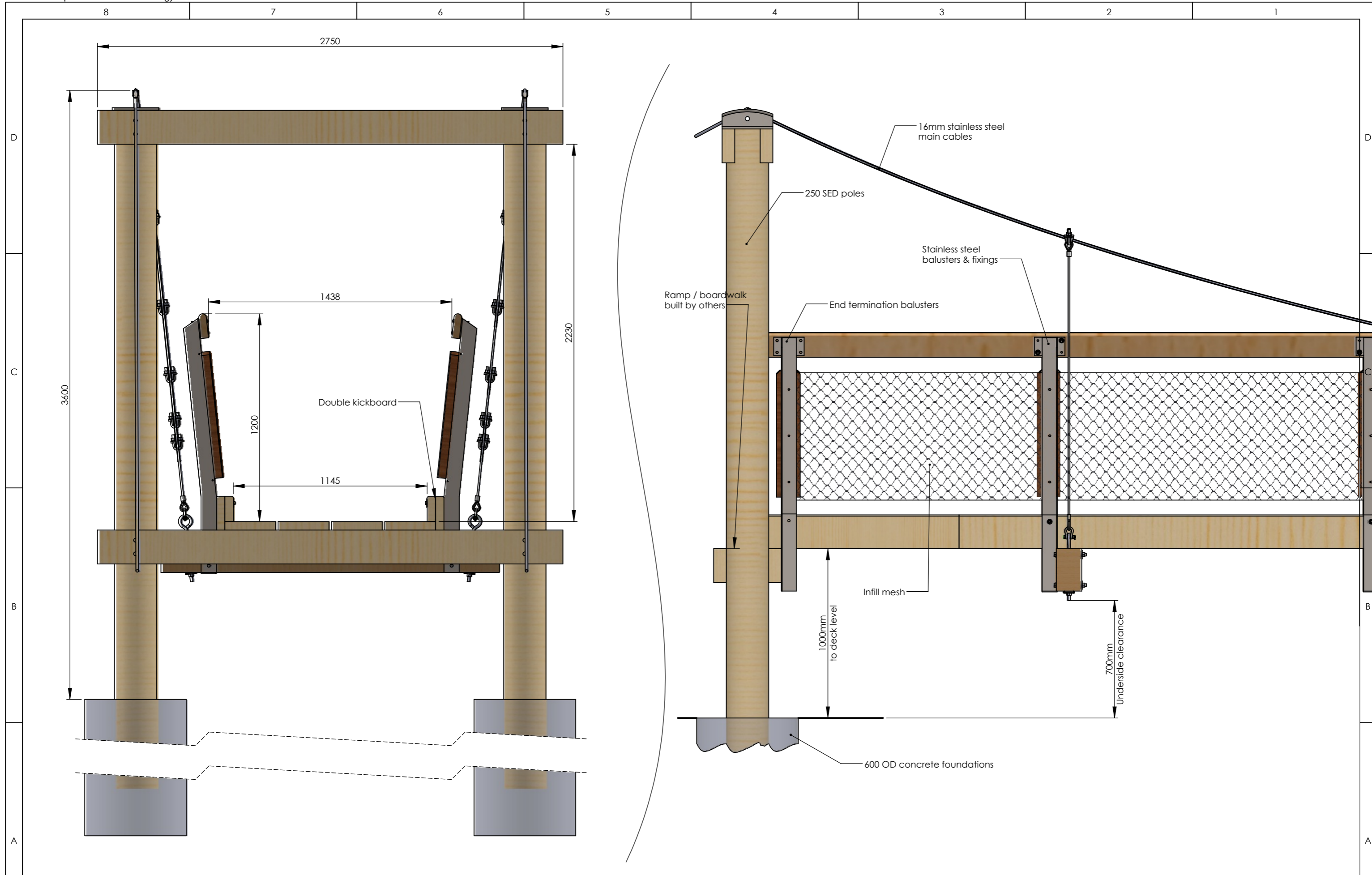
Client NPDC	Sheet Title Concept Drawing Set	Location Lower Ahu Ahu Rd		Design DC
Project Whenuariki Stream Bridge	General Layout	Drawing Number AA-1889-DWG-0-3		Checked MW
			Approved	Date 12/10/2023
			Status For RC	Scale 1: 125 on A3
				Revision A




True Left

True Right

Client NPDC	Sheet Title Concept Drawing Set	Location Lower Ahu Ahu Rd		Design DC
Project Whenuariki Stream Bridge	3D Overview	Drawing Number AA-1889-DWG-0-4		Checked MW
				Approved Scale VARIOUS
				Status For RC
				Revision A



Client NPDC	Sheet Title Concept Drawing Set	Location Lower Ahu Ahu Rd		Design DC
Project Whenuariki Stream Bridge	Tower & Side view	Drawing Number AA-1889-DWG-0-5		Checked MW
				Date 12/10/2023
				Approved VARIOUS
				Status For RC
				Revision A



Client	NPDC
Project	Whenuariki Stream Bridge


Sheet Title	Concept Drawing Set
	Concept Render 1 (TL)

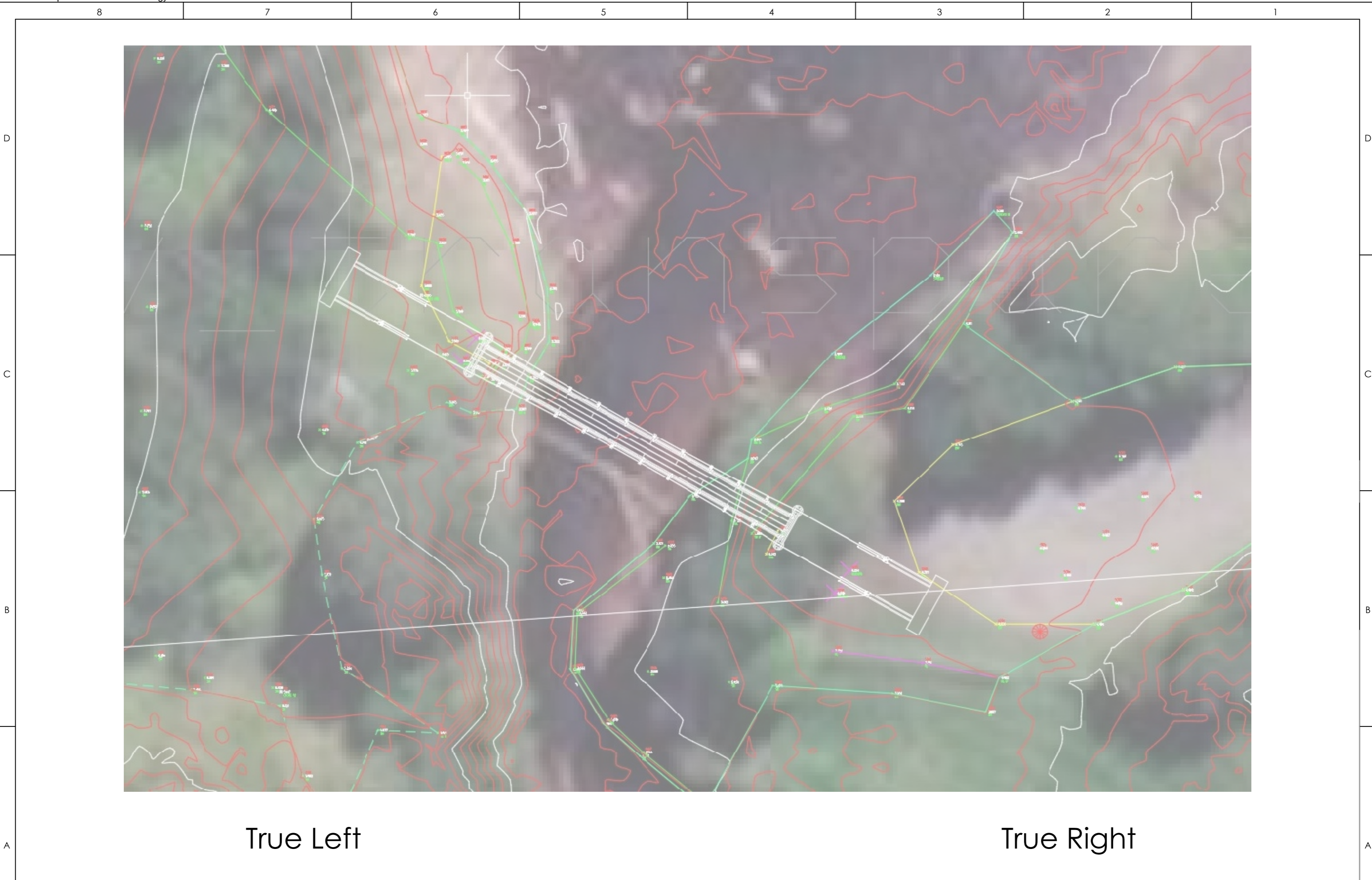
Location	Lower Ahu Ahu Rd
Drawing Number	AA-1889-DWG-0-6



Design		Drawn	DC
Checked	MW	Date	12/10/2023
Approved		Scale	VARIOUS
Status	For RC	Revision	A




Client NPDC	Sheet Title Concept Drawing Set	Location Lower Ahu Ahu Rd		Design DC
Project Whenuariki Stream Bridge	Concept Render 2 (TL)	Drawing Number AA-1889-DWG-0-7		Checked MW
			Approved	Date 12/10/2023
			Status For RC	Scale VARIOUS
				Revision A



True Left

True Right

Client NPDC	Sheet Title Concept Drawing Set	Location Lower Ahu Ahu Rd		Design DC
Project Whenuariki Stream Bridge	Site Overview	Drawing Number AA-1889-DWG-0-8		Checked MW
				Date 12/10/2023
				Scale 1:200 on A3
				Approved
				For RC
				Revision A
				Status