

**Before the Independent Hearing Commissioners  
appointed by New Plymouth District Council**

**Under** the Resource Management Act 1991

**In the matter of** hearing on the resource consent application by the New Plymouth Pistol Club Inc for a land use resource consent for the use of a gun range and associated facilities within the General Industrial Zone on the existing site at 228 De Havilland Drive & 1206 Devon Road (LUC24-48583)

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**Addendum Statement of evidence of Aaron Mark Edwards on behalf of  
New Plymouth Pistol Club Inc**

**Date:** 18 May 2026

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## INTRODUCTION

- 1 The following provides my response to evidence from Puketapu Hapū received after my evidence was circulated.
- 2 My response addresses:
  - The statement of evidence of Raukura Salisbury on behalf of Puketapu Hapū.
  - The statement of evidence of Rowan Margaret Anne Williams on behalf of Puketapu Hapū (Planning).
- 3 My response also addresses matters concerning stormwater management and construction sequencing, arising from that evidence.
- 4 Updated recommended conditions of consent with track changes are attached as **Appendix A**. These include changes made to the conditions following review of the Joint Statement of Noise Experts dated 18 May 2026.
- 5 An advice letter prepared by BTW Company, '*Engineered Stormwater Treatment Options and Monitoring*', is attached as **Appendix B**.
- 6 My response is generally structured to address the evidence of Ms Salisbury and Ms Williams by reference to the headings used in their evidence. I acknowledge that Puketapu Hapū have approached matters from a holistic perspective, which is appropriate. However, this application is for a land use consent and in my opinion must be assessed within that statutory context, with the primary focus on the location, design, and management of land use effects.
- 7 I also provide an Executive Summary of my evidence below to assist the Panel.

## EXECUTIVE SUMMARY

- 8 This addendum evidence responds to matters raised by Puketapu Hapū and focuses on contaminated land, groundwater and surface water effects, cultural values, and construction sequencing.
- 9 I acknowledge the concerns raised and agree these are relevant matters. The key issue is the appropriate response within a land use consent framework, where the

primary focus is on the location, design, and management of effects, with discharges addressed through the regional council framework where required.

- 10 In relation to contaminated land, the proposal adopts an on-site management approach consistent with the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (**NESCS**). Evidence from the technical experts confirms that risks to human health and the environment can be appropriately managed through the proposed conditions, including the Site Management Plan (**SMP**) and Ongoing Site Management Plan (**OSMP**).
- 11 In relation to groundwater and surface water, I consider that the proposed monitoring and management framework, including the Surface Water and Sediment Monitoring Plan (**SWSMP**) and stormwater treatment conditions, provides a proportionate and enforceable response. The Receptor Risk Assessment<sup>1</sup> (**RRA**) indicates that adverse ecological effects are unlikely, and the conditions provide for monitoring and adaptive management if required.
- 12 From a policy perspective, I agree with the relevant provisions identified by Ms Williams, giving evidence for Puketapu Hapū. In my view, the proposal, as conditioned, appropriately responds to those provisions through setbacks, riparian planting, stormwater management, and engagement with tangata whenua, and is not contrary to the intent of the planning framework.
- 13 In response to concerns regarding implementation, additional conditions are proposed that provide clear day-one operational controls, staged delivery of mitigation works, and ongoing limits on range use. These conditions ensure that compliance with the CNR 90 standard is achieved from the outset and maintained over time.
- 14 Overall, I consider that the proposal, when assessed within the statutory context and subject to the proposed conditions, achieves an appropriate level of environmental management. The potential effects identified can be avoided, remedied, or mitigated, and the application is not contrary to the relevant objectives and policies.

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<sup>1</sup> BTW Company (2026) *Receptor Risk Assessment from Acoustic Bund Construction*, Report Ref: 230984.00, prepared for New Plymouth Pistol Club Inc (2 March 2026)

## POINT OF CLARIFICATION

- 15 Since circulating my evidence, I have noted that page 1 in the section 42A report describes the proposal as involving the ‘*remediation of known soil contaminants*’. To clarify, the proposal does not involve remediation. Rather, soil contamination is to be managed onsite. I address this matter further in my response below.

## STATEMENT OF EVIDENCE OF RAUKURA SALISBURY

### *Puketapu Hapū, Cultural Landscape of Puketapu, Puketapu Cultural Values, Background and Engagement, Whakapapa and Cultural Landscape*

- 16 I acknowledge the description of Puketapu Hapū, including the cultural landscape and values set out in paragraphs 6-16 and 22-27 of the evidence of Ms Salisbury.
- 17 I agree with the background and engagement summary in paragraphs 17-20. The Club held a hui in March 2025, which was attended by Ms Salisbury and Ms Williams. The Club has continued to engage with Puketapu Hapū to seek to respond to and address outstanding matters.

### *Contamination Concerns and Effects on Wai, Effects on Mauri, Effects on Mana and Kaitiakitanga*

- 18 I acknowledge the concerns raised by Ms Salisbury in paragraphs 28–40 of her evidence in relation to site contamination. I agree that, if not properly managed, the migration of contaminants to surface water or groundwater has the potential to adversely affect wai and the mauri of the tributary. I address these matters further in paragraphs 21-40 below.
- 19 I note that paragraphs 35, 36 and 38 of Ms Salisbury’s evidence indicate that contamination may already be affecting the mauri of the tributary. While I agree that contamination presents a potential risk, I am not aware of evidence confirming that contamination is currently resulting in adverse effects on the tributary. In this respect, Mr Bolger notes at paragraph 18 of his evidence that Taranaki Regional Council (TRC) has previously undertaken surface water and sediment sampling in the tributary and concluded that there did not appear to be significant amounts of lead or other heavy metals discharging from the site.

20 I note the reference in paragraph 39 to the absence of a comprehensive Cultural Impact Assessment (CIA) as an outstanding matter. To my recollection, a CIA has not been requested by Puketapu Hapū during the course of consultation to date.

*Remaining Matters of Issue and Recommended Conditions*

21 Paragraphs 47–60 of Ms Salisbury’s evidence clearly identify the remaining matters requiring resolution in order to confirm Puketapu Hapū support of the application.

22 I acknowledge the concerns raised in paragraph 52 in relation to noise effects on the Future Urban Zone (FUZ). Noise matters have been addressed extensively in the evidence before the Panel. In my view, the proposal will not compromise the ability to develop the FUZ. In forming that view, I have had regard to the expert evidence of Dr Trevathan, which concludes that, with the proposed mitigation measures in place, noise effects on the FUZ will be no more than minor. I have also considered the Joint Statement of Noise Experts, in which Mr Ellerton concludes that it is unlikely that the proposal will constrain future residential development within the FUZ or create reverse sensitivity effects over time, provided the CNR 90 standard is achieved.

23 I address the remaining matters of contaminated land management, groundwater and surface water protection, and cultural monitoring and protection below.

Contaminated Land Management

24 Puketapu Hapū seek remediation of contaminated soils, as opposed to the on-site management approach proposed by the Club.

25 The Club has considered remediation and sought advice from BTW Company around potential remediation costs. Mr Bolger advises that disposal costs for disturbed soils associated with the upgrade works (involving up to 1,333 m<sup>3</sup> of cut) could range between \$400,000–\$550,000, depending on the volume of material requiring removal, the extent to which contaminant concentrations exceed relevant thresholds, and the classification and disposal requirements of the receiving facility. These costs relate only to the remediation of soils disturbed as part of the acoustic

mitigation works and installation of stormwater treatment systems.<sup>2</sup> Remediation of the wider site would likely result in significantly greater costs.

26 The NESCS does not require remediation in all circumstances, but instead provides a framework to ensure that risks to human health are appropriately managed. In this case, both Mr Bolger and Ms Shephard (Council's contaminated land expert) consider that the proposed upgrade works can be adequately managed through the recommended consent conditions. In my view, an on-site management approach is appropriate to manage risks to human health within the NESCS framework.

27 I understand that contamination risk is primarily associated with historic site activity. The Club has implemented measures to reduce the risk of ongoing contamination, including the use of bullet catchers and the recovery and reuse of lead. I understand from the Club that the majority of projectiles are now retained within the bullet catchment systems rather than entering underlying soils. These measures will be formalised through the OSMP and will assist in managing and reducing the potential for future contaminant generation and migration compared to historic site practices.

#### Groundwater and Surface Water Protection

28 I acknowledge concerns regarding groundwater and surface water protection, with Ms Salisbury recommending the following conditions:<sup>3</sup>

*56. Installation of dedicated groundwater monitoring wells between the ranges and the Mangaoraka tributary.*

*57. Reporting of groundwater, surface water, and sediment monitoring results to both Council and Puketapu.*

*58. Implementation of engineered stormwater treatment systems capable of heavy metal attenuation and removal prior to discharge or infiltration.*

29 In my view, conditions 56 and 57 primarily relate to the management of discharges to land or water which fall within the regulatory functions of TRC. TRC has not

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<sup>2</sup> Stormwater treatment systems are discussed further in paragraphs 37-39.

<sup>3</sup> I refer to paragraphs 56-58 as conditions 56-58 in my evidence.

previously advised resource consent is required for the existing activity, noting that site investigations and monitoring undertaken to date have not resulted in enforcement action or direction to obtain resource consents.

- 30 I understand the Club is committed to obtaining all necessary approvals and will engage further with TRC to confirm whether any regional consents are required.
- 31 The key regional plan provisions are Rules 25 and 44 of the TRC Regional Freshwater Plan (**RFP**) which address discharges of stormwater, sediment, and other contaminants to land and water.
- 32 Rule 25 provides for the discharge of stormwater and sediment from soil disturbance activities of up to 1 hectare<sup>4</sup> as a permitted activity, subject to conditions including limits on disturbance volume, implementation of erosion and sediment controls, and avoidance of adverse effects on receiving environments. Based on the evidence before the Panel, the proposed acoustic upgrade works, involving up to 2,673 m<sup>3</sup> of soil disturbance<sup>5</sup>, can meet the relevant permitted activity standards under Rule 25, subject to the implementation of the Erosion and Sediment Control Plan (**ESCP**).
- 33 Rule 44 addresses discharges of contaminants to land where contaminants may enter water and are not otherwise provided for in the RFP. In that context, Rule 44 effectively operates as a ‘catch-all’ rule, requiring resource consent as a discretionary activity where discharges cannot meet permitted activity standards or are not specifically authorised under the RFP. Determining whether Rule 44 applies would involve consideration of potential contaminant pathways and may require groundwater and surface water monitoring.
- 34 In my opinion, conditions 56 and 57 extend beyond the regulatory scope of a territorial authority. While the WB-Waterbodies provisions in the Proposed Operative District Plan (**PODP**) address the effects of land use on waterbody values, they operate at a land use planning level (focusing on the location, design and management of activities adjoining waterbodies) and do not regulate discharges

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<sup>4</sup> Rule 25 concerns the area of soil disturbance rather than the area of the site, with up to 3,000 m<sup>3</sup> permitted.

<sup>5</sup> This includes additional earthwork activity of approximately 108 m<sup>3</sup> of cut and 108 m<sup>3</sup> of fill associated with the installation of stormwater treatment systems.

of contaminants, which fall within the statutory functions of TRC and are more appropriately addressed through the regional council framework.

35 The proposed SWSMP conditions have been developed to address potential effects on receiving waterbodies, having regard to the relevant direction in the PODP. These conditions include pre-construction certification, defined sampling locations and parameters, and construction and post-construction monitoring, with trigger values and clear reporting and corrective action requirements. In my view, these conditions provide a proportionate and appropriate response to potential effects.

36 I have also reviewed the RRA provided in support of the application. The RRA identifies shallow groundwater and the tributary of the Mangaoraka Stream as relevant receptors and assesses potential contaminant transport, including through groundwater. The assessment adopts conservative modelling assumptions and compares predicted concentrations against recognised guideline values. The RRA concludes that the mobilisation of lead from soils disturbed during the proposed works is not expected to result in adverse ecological effects on the tributary, with predicted concentrations at the receptor being negligible relative to guideline values. The assessment also identifies the low mobility of lead in groundwater and the attenuation characteristics of the site soils.

37 The Club has further considered the recommendation for an engineered stormwater treatment system in condition 58 and sought advice from BTW Company, set out in the letter titled *Engineered Stormwater Treatment Options and Monitoring* (Appendix B). That advice identifies potential contaminant sources and transport pathways and outlines a conservative, site-specific treatment approach. In my view, it demonstrates that potential contaminant pathways can be effectively managed through established design and operational measures. On that basis, the Club offers the following conditions:

37.1 *The Consent Holder must ensure that stormwater runoff from the site is managed to avoid, remedy, or mitigate the discharge of contaminants, including heavy metals, to the unnamed tributary of the Mangaoraka Stream.*

37.2 *The Consent Holder must, where necessary, design, install and operate engineered stormwater treatment systems capable of removing heavy metals prior to discharge or infiltration.*

37.3 *The design, location and specification of any stormwater treatment systems must be submitted to Council for certification at least 10 working days prior to installation.*

37.4 *The stormwater treatment system, where installed, must be operated and maintained for the duration of the activity to ensure ongoing effectiveness.*

38 In my experience, engineered stormwater treatment requirements are most commonly imposed through regional discharge consents. However, district land use consents may appropriately require on-site stormwater management measures, including treatment where necessary, to manage the effects of land use activities.

39 In my view, these proposed stormwater treatment conditions are not highly technical in nature. They do not prescribe specific design solutions, treatment devices, performance standards, or detailed engineering parameters, but instead establish an effects-based framework requiring that stormwater be appropriately managed and, where necessary, that treatment systems be implemented and certified at the detailed design stage. This approach is consistent with the role of a territorial authority in addressing the effects of land use and ensuring appropriate site-level responses, while leaving the detailed design and performance of stormwater systems to be developed by suitably qualified professionals and, where relevant, the regional consent framework.

40 In my view, the findings of the RRA, together with the proposed SWSMP and stormwater treatment conditions, demonstrate that potential effects on groundwater and surface water can be appropriately managed within the proposed consent framework. The stormwater management approach outlined in Appendix B reinforces this conclusion by demonstrating that contaminant pathways can be effectively controlled through established engineering and management responses, if required.

#### Cultural Monitoring and Protection

41 The Club supports the inclusion of cultural monitoring and protection conditions. Proposed conditions 5 and 6 are generally consistent with the outcomes sought by Puketapu Hapū in relation to on-site cultural monitoring and accidental discovery protocols. The Club also supports the preparation of management plans, including a riparian planting plan, in collaboration with Puketapu Hapū, and is willing to work with Council and Puketapu Hapū to finalise appropriate conditions.

## STATEMENT OF EVIDENCE OF ROWAN WILLIAMS

### *Existing Environment*

42 I generally agree with existing environment matters outlined in paragraphs 12-16 of Ms Williams' evidence. However, I note in paragraph 17 Ms Williams states that "*the applicant adopts recommendations relating to remediation of site contamination*". As noted above, the Club proposes on-site management of soil contaminants rather than remediation.

43 Ms Williams addresses noise effects in paragraphs 18–20. I agree that, in the absence of mitigation, noise has the potential to adversely affect future residential amenity within the FUZ. As outlined in paragraph 22, I consider the proposal will not compromise the ability to develop the FUZ.

### *Relevant Policy and Planning Framework*

44 I generally agree with Ms Williams' identification of the relevant Strategic Direction, Waterbodies, and tangata whenua provisions within the PODP. In particular, I agree that these provisions recognise the importance of Te Mana o te Wai, the intrinsic values of ecosystems, and the need to appropriately manage effects on the Mangaoraka Stream. I have also had regard to the Te Atiawa Iwi Environmental Management Plan (**EMP**) and the Puketapu Hapū Strategic Plan – *Te Ika o Te Rangi – Puketapu 2037 Strategy (the Strategy)*, which similarly emphasise the protection and regeneration of whenua and wai, the exercise of kaitiakitanga, and the importance of safeguarding mauri for future generations.

45 In my view, these provisions are appropriately applied within the context of a land use consent, where the focus is on the location, design, and management of activities adjoining waterbodies. As set out above, the PODP does not regulate contaminant discharges directly, but instead requires that land use activities manage potential effects through design and conditions, with detailed regulation of discharges addressed through the regional planning framework where necessary.

46 In that context, I consider the proposal, as conditioned, is not contrary to the intent of the relevant provisions. The proposal incorporates setbacks from the tributary, riparian planting, and measures recognising tangata whenua values through engagement and proposed conditions. It also provides for stormwater management and, where necessary, treatment to address potential contaminant pathways. These measures respond directly to the values identified in the PODP and are consistent

with the expectations set out in the EMP and the Strategy in relation to the protection and regeneration of wai, the maintenance of mauri, and the management of contaminant pathways within a land use context.

- 47 In relation to policy provisions concerning activity location and effects management, including WB-P3 in the PODP, I consider the activity is appropriately located having regard to its established use, operational requirements, and proposed mitigation. The proposal incorporates physical separation from the tributary and management frameworks, including stormwater management and treatment measures, that address potential effects at the land use interface.
- 48 Ms Williams places weight on uncertainty associated with long-term contaminant behaviour and the reliance on monitoring. While I acknowledge that monitoring-based approaches involve an element of uncertainty, I do not consider this to be inappropriate. The PODP framework anticipates that potential effects will be managed through conditions, including monitoring, management frameworks, and, where necessary, physical mitigation measures. This approach is also consistent with the EMP, which recognises the role of monitoring and responsive intervention in maintaining and enhancing the mauri of the environment.
- 49 In this case, the proposed conditions, including the SWSMP, contaminated land management measures, and stormwater treatment requirements, provide an enforceable framework to identify, monitor, and respond to any effects that may arise. These measures are consistent with the PODP's effects-based management approach to avoid, remedy, or mitigate adverse effects, and represent a proportionate response to the nature and scale of the potential effects.
- 50 For these reasons, while I agree with Ms Williams as to the relevance of the policy framework, I do not consider the proposal to be inconsistent with those provisions. Rather, when assessed in the appropriate statutory context and subject to the proposed conditions, the proposal achieves an appropriate and proportionate level of avoidance, remediation, or mitigation of effects on waterbody values and tangata whenua interests.

## CONSEQUENTIAL MATTERS

### *Stormwater Treatment System*

- 51 Appendix A in the BTW advice letter (Appendix B) demonstrates an indicative location for the installation of stormwater treatment devices, noting that the exact sizing and location would be confirmed through detailed design.
- 52 Installation of the stormwater devices does not introduce any new non-compliances. Resource consent is already required for soil disturbance as a discretionary activity under the NESCS. The indicative location complies with PODP earthwork setback rules relative to the tributary and Rongonui Pā. While installation may exceed the maximum 1.5 m cut depth under EW-S2, resource consent is already required under this standard. I consider that the proposed conditions would appropriately manage associated earthwork activities, including through adherence to the ESCP, SMP, and SWSMP.
- 53 Accordingly, the stormwater treatment devices are within the scope of the consent application, with the Indicative Stormwater Treatment System Plan to be included in proposed condition 1 (general accordancy).

### *Construction Sequencing*

- 54 I discussed construction sequencing in paragraphs 61–63 of my evidence, particularly in the context of concerns raised in the section 42A report regarding the commitment to fully implement the physical noise mitigation measures.
- 55 Having regard to the matters raised by Ms Salisbury and Ms Williams, there remains some uncertainty as to whether separate resource consent may be required from TRC, and the associated timeframe for resolving any regional consenting matters. These matters relate to potential discharge effects, which can be addressed in parallel with the construction and implementation of the proposed acoustic mitigation works.
- 56 In his response statement, Mr O’Sullivan reconfirms the Club’s commitment to comply with the CNR 90 standard from the date of consent commencement and offers further controls and timeframe commitments for the completion of mitigation works. The Club offers the following additional conditions:

- 56.1 *Prior to the commencement of shooting activity, the Consent Holder must install and operate a temporary noise monitoring system capable of measuring and recording gunshot noise levels for the purpose of verifying compliance with condition [XX]. The temporary noise monitoring system must be in place until the permanent Class 1 sound level meter required in condition [XX] is operational.*
- 56.2 *From the date of commencement of this consent, the Consent Holder must operate the site in a controlled manner as follows:*
- 56.2.1 *Shooting activity across all ranges must be limited to .22 rimfire firearms, except as provided for in (b) below.*
- 56.2.2 *Suppressed centrefire firearms may only be used on Range 8.*
- 56.2.3 *Range 1 must be limited to .22 rimfire use and must not be used more than once per calendar month.*
- 56.3 *The operational restrictions in condition [XX] apply until the Consent Holder demonstrates, to the satisfaction of the Council, that:*
- 56.3.1 *The relevant stage of physical mitigation works has been completed [and achieves the following noise levels at the notional boundary of the secondary dwelling at 1222 Devon Road:*
- (a) *67 dB LAFmax when shooting from Range 1.*
- (b) *65 dB LAFmax when shooting from Ranges 2-8]<sup>6</sup>.*
- 56.3.2 *Compliance with the CNR 90 standard in condition [XX] can be achieved under the proposed operation.*

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<sup>6</sup> Paragraph 56.3.1 is referenced as condition 44(a) in the proposed condition set. The inclusion of LAFmax was identified as a matter of partial agreement under Issue 7 in the Joint Statement of Noise Experts. Mr Ellerton stated that “the reference to Lmax is confusing as a proxy compliance metric while also referencing CNR and perhaps 44(a) is surplus.” The bracketed text is therefore included as potentially optional, pending resolution of this matter.

- 56.4 *Except for .22 rimfire use, following completion of the physical mitigation works for Range 1 (Stage 4), the use of Range 1 must be limited to no more than two days per calendar month.*
- 56.5 *The Consent Holder must progressively implement the physical noise mitigation works generally in accordance with the approved plans, including:*
- 56.5.1 *Installation of container-based acoustic barriers.*
- 56.5.2 *Berm modification and range separation works.*
- 56.5.3 *Construction of timber or other acoustic barrier structures.*
- 56.5.4 *Any other mitigation measures required to achieve compliance with condition [XX].*
- 56.6 *All physical noise mitigation works must be completed within 5 years of the date of grant of this consent.*
- 56.7 *All physical noise mitigation works must be completed in stages as follows:*
- 56.7.1 *Stage 1 - Ranges 4 and 5 and part of Range 7: within 2 years after consent commencement date.*
- 56.7.2 *Stage 2 - Ranges 2 and 3: within 3 years after consent commencement date.*
- 56.7.3 *Stage 3 – Range 6 and remainder of Range 7: within 4 years after consent commencement date.*
- 56.7.4 *Stage 4 – Range 1: within 5 years after consent commencement date.*
- 56.7.5 *Stage 5 – New Clubrooms building: within 5 years after consent commencement date.*
- 56.8 *If at any time the Consent Holder is unable to demonstrate compliance with condition [XX], the Consent Holder must immediately restrict*

*shooting activity to that which achieves compliance, including, if necessary, reverting to the operational restrictions specified in condition [XX].*

56.9 *Within 3 months of the date of the grant of this consent, the Consent Holder must provide to Council a construction and implementation programme outlining the sequencing and indicative timeframes for completion of the mitigation works.*

57 I consider the proposed conditions provide an appropriate level of certainty as to the timeframe for delivery of mitigation works and ensure that the commitment to comply with the CNR 90 standard is enforceable. In my view, the proposed timeframes are reasonable having regard to the scale of the works and the nature of the Club as an incorporated society. The proposed conditions, including those outlined above, together with operational management controls available to the Club, will ensure noise remains at a reasonable level.

## **CONCLUSIONS**

58 The evidence of Ms Salisbury and Ms Williams identifies matters relating to cultural values, contaminated land, water, and noise. I generally agree with the relevance of these matters and the applicable planning framework, with the key area of difference being the appropriate response to those issues within a land use consent context.

59 In my view, the evidence before the Panel demonstrates that potential adverse effects on groundwater, surface water, and ecological receptors can be appropriately managed through the proposed conditions, including the SWSMP, stormwater treatment provisions, and contaminated land management measures, supported by design and operational responses including setbacks and riparian planting.

60 In that context, I consider the matters raised by Puketapu Hapū are capable of being appropriately addressed through conditions and ongoing engagement. In my opinion, proposed conditions appropriately address concerns raised and provide further certainty to the Panel that effects will be appropriately managed.

61 Overall, the proposal, when assessed within the statutory framework and subject to the proposed conditions, achieves a proportionate level of environmental management and is not contrary to the relevant objectives and policies of the planning framework.

**Date:** 18 May 2026



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**Aaron Mark Edwards**

**APPENDIX A: UPDATED RECOMMENDED CONSENT CONDITIONS  
(TRACK CHANGE VERSION)**

## **RECOMMENDED CONDITIONS OF CONSENT LUC24/48583 REV 1B**

**18/05/2026**

### **NEW PLYMOUTH PISTOL CLUB**

#### **General Accordance**

1. The activity subject to this consent must be as described within the application LUC24/48583 received by the council on 2 August 2024 and further information received on 6 December 2024 and 17 December 2024 and be generally in accordance with the following plans except as amended by the conditions below:
  - a. BTW Company, Activity Area/Location Plan, Drawing 230984.02, Sheet GD00, Revision B1, Plot Date: 05/03/2026
  - b. BTW Company, Existing Site Plan, Drawing 230984.02, Sheet GD01, Revision B1, Plot Date: 05/03/2026
  - c. BTW Company, Concept Range, Drawing 230984.02, Sheet GD02, Revision B1, Plot Date: 05/03/2026
  - d. BTW Company, Typical Sections, Drawing 230984.02, Sheet GD03, Revision B1, Plot Date: 05/03/2026
  - e. BTW Company, Earthworks Plan, Drawing 230984.02, Sheet GD04, Revision B1, Plot Date: 05/03/2026
  - f. BTW Company, Erosion and Sediment Control Plan, Drawing 230984.02, Sheet GD05, Revision B1, Plot Date: 05/03/2026
  - g. BTW Company, Planting Plan, Drawing 230984.02, Sheet GD06, Revision B1, Plot Date: 05/03/2026
  - h. BTW Company, Groundwater Plan and Longsection, Drawing 230984.02, Sheet GD07, Revision B1, Plot Date: 05/03/2026
  - i. ShedEx, Site Plan, Drawing No. SCH1, Date: 17/07/24
  - j. ShedEx, Proposed Floor Plan, Drawing No. SCH2, Date: 17/07/24
  - k. ShedEx, Elevations, Drawing No. SCH3, Date: 17/07/24
  - l. Red Jacket, Wall Type 1, Job No. 6061, Date: 12/07/24

- m. Red Jacket, Container Wall Section (for 1 Container), Job No. 6061, Date: 12/07/24
- n. Red Jacket, Container Wall Elevation (for 1 Container), Job No. 6061, Date: 12/07/24
- o. BTW Company, Erosion and Sediment Control Plan, 20 October 2025
- p. BTW Company, Preliminary Site Investigation, 1220 Devon Road, Bell Block, New Plymouth, Rev A1 - 17/12/2024
- p-q. [BTW Company, NPPC Indicative Stormwater Treatment System Plan, 1220 Devon Road, Bell Block, New Plymouth, Drawing 230984-EV-03, Sheet 1, Revision 0, Drawn: 18/05/2026](#)

### **Monitoring Costs**

2. Pursuant to Section 36 of the Resource Management Act 1991 the Consent Holder must pay the actual and reasonable costs incurred by the New Plymouth District Council when monitoring the conditions of this consent.

### **Earthworks**

3. The Consent Holder must ensure that the erosion and sediment control measures shown in the approved Erosion and Sediment Control Plan (BTW Company, Drawing 230984.02, Sheet GD05, Plot Date 05/03/2026) are implemented prior to commencement of the physical noise mitigation works authorised by this consent (Works). The erosion and sediment control measures must be maintained for the full duration of the Works and shall not be removed without prior approval from the Council.
4. Any update to the approved Erosion and Sediment Control Plan must be provided to the Council for certification prior to implementing any changes.
5. No less than 7 working days prior to earthworks for the Works commencing on site, the consent holder shall advise Puketapu Hapū of the intention to undertake earthworks, so that they may provide a monitor for on-site cultural monitoring during earthworks at their discretion.
6. If the consent holder discovers kōiwi tangata, waahi taonga (resources of importance), waahi tapu (places or features of special significance) or other Māori artefacts during the Works, the consent holder must without delay:
  - a. Notify Te Kotahitanga o Te Atiawa, the Consent Authority, Heritage New Zealand Pouhere Taonga and in the case of kōiwi, the New Zealand Police.

- b. Stop work within the immediate vicinity of the discovery to allow a site inspection by Puketapu Hapū, Te Kotahitanga o Te Atiawa and Heritage New Zealand Pouhere Taonga, who must determine whether the discovery is likely to be extensive, if further site investigation is required, and whether an Archaeological Authority is required.
  - c. Any kōiwi tangata discovered should be handled and removed by kaumatua responsible for the tikanga (custom) appropriate to their removal or preservation.
  - d. Site work must only recommence following consultation with Puketapu Hapū, Te Kotahitanga o Te Atiawa, the Consent Authority, Heritage New Zealand Pouhere Taonga and in the case of kōiwi, the New Zealand Police.
7. As soon as it is practicable, but no later than six months from the commencement of earthworks or land disturbance:
- a. The earthworks area shall be stabilised, filled, recontoured and revegetated to achieve at least 80% ground cover in a manner consistent with the surrounding land; or
  - b. Sealed, paved, metalled or built over.

### **Range 1 Acoustic Walls**

8. The Range 1 acoustic wall must be set back a minimum distance of 10 m from the unnamed tributary of the Mangaoraka Stream.
9. The construction methodology for the Range 1 acoustic wall shall be confirmed at the time of detailed design and may consist of a container wall, sheet piling or combination of both.

### **Noise Management**

10. Firearms may only be discharged at the Club between 0900 and 2100 hours on Monday to Saturday and between 0900-1700 hours on Sundays.
11. Firearm noise generated by the Club must not exceed a Composite Noise Rating (CNR) of 90 at the notional boundary of any neighbouring dwelling on any day, except events provided for in condition 15. CNR is to be calculated as follows:

$$CNR = (Y - A) + 10 \log_{10} N + 10 \log_{10} T - 12$$

*Where*

*Y is the log-average LZpeak level for all shots over the day of the 25 loudest gunshots occurring that day*

*A is 13, which is the most pessimistic 'community adaption factor' allowed by the method*

*N is the number of shots over the day gunshots occurring that day*

*T is the proportion of the time between 7 am and 10 pm in which shooting takes place, represented by the period between the first and last shots permitted shooting period represented by the time between the first and last shot fired on the day.*

12. Periods of low noise must be maintained at the Club between 1200 and 1500 hours on Monday to Friday and between 1700 and 2100 hours on Saturdays. The periods of low noise do not apply to Police and Armed Offender Squad training.

**Advice Note:** *A period of low noise is defined as a period where any outdoor shooting is restricted to range/firearm combinations which produce a noise level of 55 dB LAFmax or less at the notional boundary of the 1222 Devon Road secondary dwelling.*

13. Any firearm used at the Club must be certified prior to use as either low-noise or other. Following testing undertaken by the Club, certification records for each firearm must be retained by the Club and provided to Council upon request.
14. Up to four times per year, the Club may hold a two-day event where the low noise restriction in condition 12 does not apply. These events must be published on the Club website at least one month in advance.
15. Up to two times per year the Club may hold a three-day event where the CNR restriction in condition 11 and the low noise restriction in condition 12 does not apply. These events must be published on the Club website at least one month in advance.
16. Within 3 months of the completion of the physical noise mitigation works the Club shall engage an acoustic engineer, who will:
  - a. Undertake an attended noise measurement campaign to determine the effectiveness of the physical mitigation works, and a sample of the LAFmax and CNR noise levels being generated at the notional boundaries of dwellings at the following receivers:
    - i. 1209 Devon Road (Lot 1 DP 16176)
    - ii. 1222 Devon Road (Lot 1 DP 18372)

- b. If necessary, make any recommendations for changes to the Noise Management Plan in order to ensure the CNR 90 requirement continues to be met.

**Advice Note:** Compliance with this condition may be staged for different ranges, as anticipated by condition 44 of this consent. *Noise assessment measurement on private land requires the consent of the landowner. The Club shall use all best endeavours to obtain agreement to access land for the purpose of undertaking assessment, but should such agreement not be forthcoming, may use the best alternative measurement method(s).*

17. Within 3 months of the date of the grant of this consent, the Club must install and maintain a permanent Class 1 sound level meter (capable of capturing real time data) and associated infrastructure at a location representative of the nearest residential receiver, such that a log of recent gunshots of a minimum period of the previous 14 days is able to be made available to the Council immediately upon request.
18. A Noise Management Plan must be prepared for the site and be submitted to Council for certification within 3 months of the date of the grant of this consent. The Noise Management Plan shall contain:
  - a. Processes to ensure that those who discharge firearms on the site are familiar with and required to abide by the procedures set down in the NMP.
  - b. Processes to ensure the CNR 90 requirement is complied with, including during the period when the physical mitigation works are only partially complete.
  - c. Processes to ensure the physical noise mitigation works, once complete, are inspected and kept in adequate functional condition.
  - d. Details around how the noise monitoring required by condition 17 is to be conducted.
  - e. Details around how the Club will regulate the level of activity at the Club day-to-day, to include limits on the number of rounds fired per day from Monday to Saturday, to ensure the CNR 90 requirement is not exceeded.
  - f. Details around the permanent Class 1 sound level meter which is to be installed, and who will be responsible for its upkeep.
  - g. The requirement for a Noise Management Officer responsible for implementation of the NMP, and details of their duties, including the keeping of noise log documentation and submission to Council upon request.

- h. Processes relating to community relations and communications, and periodic review of the NMP.
  - i. Procedure for maintaining a register of complaints received and a record of the Club's responses and any remedial actions undertaken.
19. Upon its certification under condition 18, the Consent Holder shall comply with the Noise Management Plan.
20. Any amendments to the Noise Management Plan must be submitted to the Council for certification prior to those amendments being implemented.
21. Police and Armed Offender Squad training must comply with conditions 10-11 except during emergency management situations undertaken in accordance with the Policing Act 2008.

### **Entrance Corridor Planting**

22. The existing planting strip adjoining Devon Road as shown in the approved Planting Plan (BTW Company, Drawing 230984.02, Sheet GD06, Revision B1, Plot Date: 05/03/2026) must be retained and maintained. Any vegetation within this planting strip that dies, becomes diseased, or is removed must be replaced within the next planting season (May–September) with plant species of similar height, density, and character to those removed, to the approval of Council.

### **Riparian Planting**

23. The Consent Holder must establish and maintain a minimum 10 m wide riparian planting margin along both sides of the unnamed tributary (or to the legal boundary where less than 10 m) as shown in the approved Planting Plan (BTW Company, Drawing 230984.02, Sheet GD06, Revision B1, Plot Date: 05/03/2026).
24. Planting and any associated fencing within the riparian planting margin must be established in the first planting season (May–October) following the completion of Range 1 works.
25. Planting within the riparian planting margin should be undertaken using eco-sourced indigenous species appropriate to the Coastal and Semi-Coastal Bioclimatic Zone, consistent with *Restoration Planting in Taranaki: A Guide to the Egmont Ecological District*. Where practical, planting should include species with recognised bioremediation capability for stabilising or uptaking lead and other metals, including indigenous species with phytoremediation potential.

26. The riparian planting margin must be maintained for a minimum 5-year period or until canopy closure is achieved. Maintenance shall include:
- a. Regular weed control.
  - b. Pest animal control where required.
  - c. Infill planting to maintain densities.
  - d. Post-storm inspections and remedial planting if necessary.
27. Any plants within the riparian planting margin that die, become diseased, fail to establish, or are removed shall be replaced in the next planting season (May–October) with the same or a similar species.

### **Contaminated Land**

#### SMP

28. A Site Management Plan (SMP) must be prepared by a suitably qualified and experienced practitioner in accordance with the current edition of the Ministry for Environment Contaminated Land Management Guidelines No.1 – Reporting on Contaminated Sites in New Zealand. The SMP must be submitted to Council for certification at least 10 working days prior to commencing soil disturbance.
29. The SMP must detail the procedures, controls and contingency measures that must be implemented for the duration of the works in order to protect human and environmental health by ensuring exposure pathways are minimised for the duration of the soil disturbance works and must include, but not be limited to:
- a. Erosion and sediment controls preventing migration of contaminants to surface water or groundwater.
  - b. Environmental controls for stockpiling of soil.
  - c. Procedures to minimise on-site contaminant dispersal.
  - d. Procedures for the safe handling, decontamination, and management of tires.
  - e. Unexpected contamination discovery protocols.
  - f. Transport and disposal procedures for any material transported off-site.
  - g. Methodology of any soil management on-site in creating any new bund.

- h. Soil testing requirements as a result of unexpected discoveries or off-site soil disposal.
  - i. Worker health and safety measures, including PPE, hygiene, and training for handling contaminated materials.
30. Soil disturbance works must be undertaken in accordance with the approved SMP. The procedures, controls and contingency measures set out in the SMP must be implemented for the duration of the soil disturbance works.
31. All material removed from the site in the course of the soil disturbance works must be disposed to a suitably licensed facility authorised for receipt of material of that kind.
32. If unexpected conditions, such as staining, odourous material, are encountered during the soil disturbance works; work in that area must cease and the Council notified. Unexpected contamination and contingency measures must be overseen and assessed by a suitably qualified and experienced practitioner.

### OSMP

33. An Ongoing Site Management Plan (OSMP) must be prepared by a suitably qualified and experienced practitioner in accordance with the current edition of the Ministry for Environment Contaminated Land Management Guidelines No.1 – Reporting on Contaminated Sites in New Zealand to control management of the fill area to the west of Range 7 and future activities following completion of construction. The OSMP shall be submitted to Council within 10 days of the completion of the soil disturbance works.

### Work Summary Report

34. Within three months of the completion of the soil disturbance works, a work summary report must be provided to the Council which must include:
- a. The approximate location and dimensions of soil disturbance carried out including a relevant site plan and photographs.
  - b. Records of any unexpected discoveries encountered during the works and the actions taken to address them.
  - c. Results of soil sampling or material sampling.
  - d. Disposal dockets for any soil or materials removed from site.
  - e. Confirmation that the works were carried out in accordance with the approved SMP.

- f. Recommendations or requirements for ongoing monitoring or management.

### Monitoring

- 35. A Surface Water and Sediment Monitoring Plan (SWSMP) must be submitted to Council for certification at least 10 working days prior to the commencement of soil disturbance. The purpose of the SWSMP is to ensure potential adverse effects on groundwater and the unnamed tributary of the Mangaoraka Stream arising from soil disturbance activity associated with acoustic mitigation works, are appropriately avoided, remedied, or mitigated.
  
- 36. The SWSMP must include, but not be limited to:
  - a. Sampling locations (upstream, downstream, and adjacent to the bund area).
  - b. Parameters including, at minimum: lead, copper, zinc, arsenic, antimony, pH, suspended sediment, and any other contaminants of concern identified in prior investigations.
  - c. Outline protocols for stream sediment sampling and analysis.
  - d. Frequency of monitoring:
    - i. During earthworks: at least monthly
    - ii. Post-earthworks: quarterly for a minimum of 12 months following completion of acoustic mitigation works.
  
- 37. SWSMP monitoring results must be provided to Council on a quarterly basis for the duration of the monitoring period. Trigger values shall be based on the Australian and New Zealand Guidelines for Fresh & Marine Water Quality (ANZG) 95% freshwater protection or more stringent site-specific criteria. Any exceedance of trigger values must be reported within 48 hours (to allow for laboratory confirmation of the validated sample result), to include:
  - a. Likely cause(s).
  - b. Immediate mitigation actions taken.
  - c. Proposed corrective actions.

### **Stormwater Treatment System**

38. The Consent Holder must ensure that stormwater runoff from the site is managed to avoid, remedy, or mitigate the discharge of contaminants, including heavy metals, to the unnamed tributary of the Mangaoraka Stream.

39. The Consent Holder must, where necessary, design, install and operate engineered stormwater treatment systems capable of removing heavy metals prior to discharge or infiltration.

40. The design, location and specification of any stormwater treatment system must be submitted to Council for certification at least 10 working days prior to installation.

41. Stormwater treatment systems, where installed, must be operated and maintained for the duration of the activity to ensure ongoing effectiveness.

### **Construction Sequencing and Operational Controls**

42. Within 1 month of the commencement of this consent, the Consent Holder must install and operate a temporary noise monitoring system capable of measuring and recording gunshot noise levels for the purpose of verifying compliance with condition 11. The temporary noise monitoring system must be in place until the permanent Class 1 sound level meter required in condition 17 is operational.

43. From the date of commencement of this consent, the Consent Holder must operate the site in a controlled manner as follows:

a. Shooting activity across all ranges must be limited to .22 rimfire firearms, except as provided for in (b) below.

b. Suppressed centrefire firearms may only be used on Range 8.

c. Range 1 must be limited to .22 rimfire use and must not be used more than once per calendar month.

44. The operational restrictions in condition 43 apply until the Consent Holder demonstrates, to the satisfaction of the Council, that:

a. The relevant stage of physical mitigation works has been completed [and, following the attended noise measurement campaign referred to in condition 16, achieves the following noise levels at the notional boundary of the secondary dwelling at 1222 Devon Road:

i. 67 dB LAFmax when shooting from Range 1.



38.50. Within 3 months of the commencement of this consent, the Consent Holder must provide to Council a construction and implementation programme outlining the sequencing and indicative timeframes for completion of the mitigation works.

## **APPENDIX B: ENGINEERED STORMWATER TREATMENT OPTIONS AND MONITORING**

18 May 2026

New Plymouth Pistol Club  
Bell Block  
New Plymouth  
4373

Tēnā koe Aaron,

**RE: Engineered Stormwater Treatment Options and Monitoring (NPPC)**

This letter sets out BTW Company Ltd (BTW) environmental advice in relation to engineered stormwater treatment options for the New Plymouth Pistol Club (NPPC).

## 1. Introduction

BTW has been instructed to provide environmental advice suitable for consideration for a New Plymouth District Council Hearing in relation to engineered stormwater treatment options for the NPPC site.

This advice responds to matters raised during joint discussions between NPPC representatives, BTW planning and scientific staff, and legal counsel, with particular focus on providing engineered stormwater treatment solutions for heavy metals attenuation and removal prior to discharge.

This advice addresses the long-term operational management of stormwater and potential contaminated runoff from the site. It does not address engineering solutions or monitoring associated with acoustic bund removal, which are addressed separately.

## 2. Scope of Advice

This advice note:

- Identifies the potential contaminant sources and transport pathways relevant to the NPPC site;
- Outlines a high-level design philosophy for stormwater management;
- Provides an engineering options framework for treatment of particulate-bound and dissolved heavy metals; and
- Recommends a monitoring and adaptive management regime suitable for regulatory oversight for the above stormwater management system, including operation and maintenance.

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179-181 Courtenay St  
New Plymouth 4310

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Hamilton 3204

Whāingaroa – Raglan  
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Raglan 3225

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### **3. Contaminant Sources and Transport Mechanisms**

#### **3.1 Metal Sources**

Ammunition use at pistol and rifle ranges is a recognised source of heavy metals, particularly lead (Pb), with associated copper (Cu), zinc (Zn) and, in some settings, antimony (Sb). These metals accumulate primarily within berms, backstops, and shot fall zones. While metallic lead is often perceived as inert, it has been previously documented that lead can weather and corrode, becoming mobile under certain soil and water chemistry conditions, particularly where pH is low or organic acids are present.

#### **3.2 Transport Pathways**

At the NPPC site, the potential contaminant transport pathways of relevance are:

- Particle-bound transport, whereby eroded fine sediments could convey the bulk of total metal loads;
- Dissolved metal transport, representing a smaller but none the less particularly relevant fraction, which could be leached or delivered to groundwater and surface water receptors; and
- Concentrated runoff pathways (“float-off” and channelised flow) around firing lines and backstops, which can bypass passive attenuation if not appropriately managed.

#### **3.3 Site Sensitivity**

The presence of shallow groundwater, proximity to an unnamed tributary of the Mangaoraka, and predominance of clayey, low-permeability soils can increase environmental risk from potential contaminants. As such, prevention through robust treatment and containment is considered appropriate.

### **4. Design Philosophy**

From an engineering and environmental perspective, the NPPC site should be treated as requiring a site-specific treatment train rather than reliance on generic stormwater management measures.

The recommended design philosophy comprises:

- Source control: minimising contact between clean runoff and contaminated materials;
- Hydraulic control: managing first flush and preventing erosion and mobilisation of fines;
- Robust solids removal: recognising the majority of metal mass is associated with sediments;
- Targeted dissolved metal polishing: addressing dissolved lead and associated metals; and
- Avoidance of infiltration, unless demonstrated to be safe, given shallow groundwater and receptor proximity.

### **5. Engineering Options**

Two options have been considered representing a conventional engineered system which could be implemented downstream of existing site drainage or an integrated water sensitive design approach which uses a treatment train of complementary measures distributed across the site, treating runoff progressively from source to discharge.

## 5.1 Conventional Engineered System Treatment Train

The below recommended treatment train is intended to operate downstream of existing site drainage controls and upstream of any discharge to the receiving tributary.

- **Stage 1 – Pretreatment Sediment Capture**

A deep sump catchpit or lined sediment sump is recommended at the primary collection point to remove coarse sediments and settleable solids derived from range surfaces and associated hardstand areas. The device should be designed to allow safe access for vacuum clean-out, acknowledging that captured materials are to be managed as potentially contaminated material.

- **Stage 2 – Offline Reactive Media Filtration**

An offline filter vault or cartridge-based system utilising reactive media is recommended to provide:

- Fine sediment (TSS) filtration; and
- Adsorption of dissolved metals, with particular focus on lead, and secondary benefits for copper and zinc.

An offline configuration enables preferential treatment of first-flush events, reduces scour during large storm events, and extends media lifespan. Media selection should be supported by third-party performance data for dissolved lead removal under comparable operating conditions.

The performance objective is to achieve dissolved lead concentrations  $\leq 1.3 \mu\text{g/L}$  at the point of discharge, consistent with the ANZG 95% species protection value adopted in the environmental risk assessment.

## 5.2 Water Sensitive Design Treatment Train

The below integrated water sensitive design approach uses a staged treatment train—combining source control, conveyance, filtration and polishing systems — to progressively treat stormwater and replicate natural water processes.

- **Stage 1 – Collection and Conveyance (Vegetated Swales)**

A treatment train of vegetated swales could be developed through the site to collect, convey and provide at source treatment of runoff and groundwater.

A water sensitive design (WSD) treatment train integrates multiple stormwater management practices to progressively remove contaminants and manage runoff as it moves through a site. Vegetated swales form a key intermediate stage, providing both conveyance and treatment by slowing flows, promoting infiltration, and filtering pollutants.

Swales are shallow, vegetated channels that attenuate peak flows, reduce runoff volumes, and remove sediments and associated contaminants through filtration, sedimentation, and biological uptake within the vegetation and soil matrix.

Within a treatment train, swales typically receive pre-treated runoff (e.g. from source controls or gross pollutant devices) and provide secondary treatment prior to downstream systems such as bioretention devices or wetlands, improving overall system performance and protecting more sensitive treatment elements.

A vegetated swale treatment train uses staged, landscape-integrated systems to convey, slow, and progressively treat stormwater, improving water quality and mimicking natural hydrological processes.

- **Stage 2 – Collection and Conveyance (Vegetated Swales)**

Bioretention systems provide secondary water quality treatment within a WSD treatment train by filtering stormwater through a vegetated, biologically active soil media. This stage targets finer pollutants which are not removed during primary treatment.

Runoff is temporarily detained and then percolates through engineered filter media, where contaminants are removed through a combination of filtration, sedimentation, adsorption, and biological processes.

Bioretention is particularly effective at removing fine sediments, nutrients, heavy metals, and bacteria through soil-media filtration and plant uptake, with microbial activity further transforming pollutants.

In addition to improving water quality, bioretention reduces runoff volumes and peak flows via infiltration and storage, while protecting downstream receiving environments and enhancing overall treatment train performance.

### **5.3 Stage 3 Controlled Discharge and Sampling Point**

A final controlled outfall structure is recommended, incorporating defined sampling infrastructure, stable outlet protection, and, where practicable, a contingency mechanism to temporarily halt discharge in the event of abnormal site disturbance or treatment system failure. Section 7 below outlines the Operational Monitoring and Adaptive Management of this structure.

## **6. Soil and Chemistry Management Measures**

In addition to engineered devices, soil chemistry management within berms and range backstops provides an important secondary control. Liming to maintain near-neutral pH and the use of phosphate-based amendments can materially reduce lead mobility by promoting the formation of low-solubility mineral phases. Such measures should be implemented cautiously and supported by monitoring, recognising that inappropriate phosphate application can increase nutrient or metal mobility under certain conditions.

## **7. Operational Monitoring and Adaptive Management**

### **7.1 Monitoring Regime**

Operational monitoring is recommended to include:

- Quarterly monitoring for the first year of operation, transitioning to six-monthly monitoring where results demonstrate stable and compliant performance;

- Event-based monitoring following first-flush events and any event associated with visible mobilisation or ponding; and
- Upstream, discharge, and downstream sampling locations to enable attribution of effects.

Key parameters should include dissolved and total lead, turbidity or TSS, and pH, with additional metals included if deemed appropriate a suitable qualified environmental scientist.

## 7.2 Adaptive Management Framework

An adaptive management framework is recommended, with exceedance of dissolved lead trigger values requiring verification of sampling integrity, inspection of pretreatment and filtration systems, and implementation of corrective actions. These actions shall include sediment removal, media replacement, and/or improvement of source diversion controls.

## 8. Assumptions and Limitations

This advice has been prepared subject to the following key assumptions and limitations:

- The advice is based on information provided by NPPC and prior investigations undertaken at the site. BTW has not independently verified all third-party data.
- Conceptual engineering options are provided at a screening to feasibility level and are not intended to represent detailed design or construction documentation.
- Cost estimates are indicative only and are based on typical New Zealand procurement and construction rates as at the date of this letter. Actual costs may vary depending on detailed design, market conditions, contractor pricing, ground conditions, and consenting requirements.
- This advice is provided for the purposes of the NPPC to inform future management decision at the site and should not be relied upon for construction or procurement without further detailed design and specification.

## 9. Conclusions

In our opinion, a conservative engineered treatment train comprising pretreatment sediment capture, reactive media filtration, and controlled discharge represents a reliable option for managing potentially heavy-metal-contaminated stormwater at the NPPC site. When combined with targeted soil chemistry management and a structured monitoring and adaptive management regime, this approach is consistent with best practice for high-risk sites and provides an appropriate level of environmental protection for consideration by NPPC and NPDC.

Ngā mihi












Greg Larkin  
Principal Environmental Scientist - Ecology

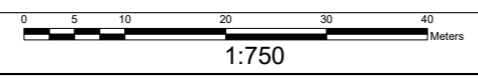
**Appendix A – Site Map and Preliminary Location of Stormwater Treatment System**



**Legend**

-  Indicative Area for Stormwater Treatment
-  NPDC Site of Significance to Māori
-  NPDC Site of Significance to Māori Extent
-  Site of Significance to Māori Extent 50m Buffer
-  Tributary (Indicative)
-  Tributary 10m Buffer
-  Culvert
-  Property Parcel
-  Activity Area

**GENERAL NOTES**  
 1. Coordinates are in terms of New Zealand Transverse Mercator  
**DISCLAIMER**  
 GIS data and imagery are for indicative purposes only.  
 Cadastral information sourced from LINZ. Crown copyright reserved.



NO	DATE	BY	CHKD	REVISIONS

LOCATION	BELL BLOCK	DRAWN	E. NOLLY	18.05.26
PROJECT No.	230984	CHECKED	G. JOHNSTON	18.05.26
		SCALE	1:750	
		ORIGINAL SIZE	A3	



TITLE			NPPC INDICATIVE STORMWATER TREATMENT SYSTEM PLAN, 1220 DEVON ROAD, BELL BLOCK, NEW PLYMOUTH		
DRAWING No.	SHEET	REVISION			
230984-EV-03	1	0			

**BTW**  
COMPANY

SURVEYING  
ENGINEERING  
PLANNING  
ENVIRONMENT

## Appendix B – Indicative Cost Estimates (NZD)

Indicative order-of-magnitude cost estimates (excl. GST) for procurement and construction of the recommended treatment stages are provided below. **These estimates are intended to inform feasibility and site management considerations only.**

Treatment Stage	Scope Included	Indicative Capital Cost (NZD)	Notes
Pretreatment Sediment Capture	Deep sump catchpit, excavation, installation, reinstatement	\$25,000 – \$45,000	Excludes contaminated sediment disposal during operations and no cost has been allocated for insitu soil pH or phosphate amendments
Offline Reactive Media Filtration	Filter vault or cartridge system, reactive media, diversion structure, installation	\$60,000 – \$120,000	Cost sensitive to brand, media type, and replacement capacity, <b>major caveat need 3<sup>rd</sup> party verification for design.</b>
Controlled Outfall & Sampling	Outfall structure, erosion protection, sampling point, minor contingency control	\$20,000 – \$40,000	Assumes limited earthworks and short pipe runs
Total Indicative Capital Cost	Stages 1–3 combined	<b>\$105,000 – \$205,000</b>	Order-of-magnitude only

### Indicative Operational Costs (annual):

- Routine inspection and maintenance: \$5,000 – \$10,000 per annum
- Media replacement (Stage 2, periodic): \$8,000 – \$20,000 per event (frequency dependent on loadings)
- Monitoring and reporting: \$6,000 – \$12,000 per annum

These costs should be refined following detailed design and confirmation of treatment device selection, hydraulic sizing, and site access constraints.

