

Delmore Fast-Track

04/05/2026 – Auckland Council Response

Annexure 19:

Stormwater & Geomorphology

1.0 APPLICATION DESCRIPTION

Application and property details

Fast-Track project name: Delmore Fast-Track

Fast-Track application number: FTAA-2512-1164

2.0 Technical Specialist Memo – Stormwater (Regulatory) & Geomorphology

To: Dylan Pope – Lead Planner & Carly Hinde - PPL

From: Martin Meyer – Senior Stormwater Specialist & Danny Klimetz – Healthy Waters Geomorphic Specialist

Qualifications & Relevant Experience: I hold the qualifications of: Bachelor of Science in Environmental Science and Physical Geography, Post Graduate Diploma in Science & Technology and have 8 years of experience within three waters.
I have prepared expert evidence and technical assessments for resource consent applications and fast-track applications.

Preparation in Accordance with the Code of Conduct: I confirm that I have read the Environment Court Practice Note 2023 – Code of Conduct for Expert Witnesses ([Code](#)), and have complied with it in the preparation of this memorandum. I also agree to follow the Code when participating in any subsequent processes, such as expert conferencing, directed by the Panel. I confirm that the opinions I have expressed are within my area of expertise and are my own, except where I have stated that I am relying on the work or evidence of others, which I have specified.

Signature:



Date: 25.03.2026

3.0 Documents Reviewed

The following documents have been reviewed in preparing this memorandum:

- *Assessment of Environmental Effects and Statutory Analysis*, prepared by Barker & Associates Limited, dated 23.12.2025
- *Stage 1 Scheme Plans* prepared by McKenzie & Co, dated 2.07.2025
- *Stage 2 Scheme Plans* prepared by McKenzie & Co, dated 17.12.2025
- *Ecological Impact Assessment* prepared by Viridis, dated 18.12.2025
- *Geotechnical Report* prepared by Riley Consultants Limited, dated 19.12.2025
- *Geomorphic Supplementary Report* prepared by Riley Consultants Limited, dated 19.12.2025
- *Geomorphic Assessment* prepared by Morphem Environmental, dated 20.11.2025
- *Delmore Development - Geomorphic Response Memo* prepared by Morphem Environmental, dated 19.12.2025
- *Hydrology Assessment* prepared by Williamson Water & Land Advisory, dated 18.12.2025
- *Stormwater Infrastructure* prepared by McKenzie & Co, dated 19.12.2025
- *Stormwater Peer Review* prepared by Woods, dated 19.12.2025
- *Stormwater Drawings* prepared by McKenzie & Co, dated 10.12.2025
- *Stormwater Management Plan*, prepared by McKenzie & Co, dated 18.12.2025
- *Flood Assessment Report*, prepared by McKenzie & Co, dated 18.12.2025
- *Proposed Consent Conditions*

4.0 Additional Reasons for Consent Not included in AEE / Incorrect Reasons for Consent

AUP(OP)

E8 Stormwater – Diversion & Discharge

The applicant proposes to create and discharge from new impervious areas proposed within the development, this will be authorised under the **discretionary activity** E8.4.1(A10).

The applicant has also identified activity E8.4.1(A11), I do not recommend the use of this activity, as the above E8.4.1(A10) activity will be sufficient to cover the entire private diversion and discharge.

Due to the nature of the development occurring in rural zoned land, a private consent is required. The applicant has expressed they will meet the requirements of the NDC.

E9 Stormwater Quality – High contaminant generating carparks and high use roads

The applicant proposes a high use road greater than 5,000m², I agree this is a **controlled activity** under E9.4.1(A7).

NES-F

The applicant is triggering the diversion and discharge for the purpose of urban development changes in hydrological function within 100m of natural inland wetlands. I agree with their assessment of being **restricted discretionary activity** under regulation 45C (4) and 45C(5).

5.0 Specialist Assessment

The proposal 'Delmore' is a comprehensively planned urban development of up to 1,213 residential lots, a commercial super-lot, a residential super-lot, parks, roading (including an arterial road 'NoR6') and an on-site wastewater treatment plant, and water supply and treatment (where public supplies are not available due to capacity constraints).

Existing Environment

A 109.18ha rural site located in Ōrewa at 88, 130 and 132 Upper Orewa Road and 53A, 53B and 55 Russell Road, zoned 'future urban', the site is currently rolling farmland, with some natural and exotic vegetation including natural inland wetlands. The site has 39 streams that ultimately discharge into the Ōrewa River.

The site currently has a number of farm crossings and culverts, and of the 36 natural inland wetlands identified all are stated as 'degraded through historical and current agricultural practices'. The site also contains a Significant Ecological Area (SEA) and the site has three consent notices, for bush and riparian vegetation protection, and wetland and planting area maintenance.

Assessment of Effects

The site will undergo development of impervious areas, the coverage has been modelled where Lots are assumed to have 60% impervious area, Roads 70% and JOALs 90%, the catchment specific impervious areas are individually described within the Flood Assessment Report with modelling undertaken for 'maximum probable development'. These changes in impervious area will significantly alter the stormwater diversion and discharge of the site and require mitigation and management for both quality and quantity related matters.

Water Quality

Contaminants of concern from urban development may impact the receiving environment. The applicant has identified contaminants of concern, and treatment for these contaminant generating areas.

The stormwater management plan states that all impervious areas will have treatment using devices designed in accordance with GD01 for the appropriate contaminants. This includes 75% total suspended solid treatment. Further it states that generation of contaminants will be prevented as far as practicable using low contaminant generating materials.

Impervious area	Contaminants of concern	BPO
Roofs,	Copper, Zinc	Lot contaminant generating areas.
Driveways	Sediments, gross pollutants, metals, oils and grease, hydrocarbons, temperature	Catchpit with Sump, on-site Raingarden
Public roads	Sediments, gross pollutants, metals, oils and grease, hydrocarbons, temperature	Catchpit with Sump, Communal Raingarden
Private Joals	Sediments, gross pollutants, metals, oils and grease, hydrocarbons	Catchpit with Sump, Communal Raingarden

Table 5 of the SMP, stating potential contaminants and their treatment

The high use road 'NoR6' will be considered a high use road, and required to meet the controlled activity standards of E9.4.1(A7). To comply with these standards runoff from this high use road must be treated by stormwater management device(s) that meet GD01.

All impervious areas are to be treated with GD01 devices per the SMP. The road is therefore expected to comply with these standards.

Residential lots will either connect to a piped network (with communal treatment devices), or approximately 200 lots adjacent to streams will discharge via t-bar dispersal devices (after retention/detention tanks located within their lot)

Water Quantity

The creation of impervious areas present an issue in peak flow entering the receiving environment, whereby a lower time of concentration occurs for stormwater on the site. To mitigate this the applicant proposes moderating flows through communal raingarden devices, retention (5mm)/detention (95th percentile) tanks.

These mitigation devices will provide attenuation of flows, (further attenuation within the stream is expected through throttling of culverts, refer to Healthy Waters memo), the diversions and discharge are expected to create hydrological regime change to a number of natural inland wetlands, and an area of 1,085m² is proposed to be reclaimed. A hydrological report was undertaken that specifies the hydrological effects of culverts on the wetlands. The culverts as identified within the flood assessment report are throttling flows in a variety of rainfall events which will lead to increased flooding depths immediately above culverts, altering the hydrology of the surrounding environment. Effects are expected on the wetlands impacted from the change in hydrological regime, which is considered a restricted discretionary activity under 45C(4) and 45C(5) of the NES-F, the reports identify that the effects will not be significant, ecological impact assessment has identified the existing wetlands as low and moderate ecological value, and is looking to provide a total of 3,258m² of new wetlands to offset the impact in particular to the reclaimed wetlands (a net gain of 2,173m²). A mechanism is proposed to achieve appropriately offset ecological values through a condition 'wetland offset plan'. Refer to the Ecologist memo for further information on the wetland impacts and recommended condition amendments.

Please refer to memos from engineering/AT(stormwater) and Healthy Waters for flood matters, overland flow paths, and pipe capacities.

Effects from changes on water quantity in a stream receiving environment may include geomorphic responses. Geomorphic matters have been addressed by Council's Geomorphological Specialist. Refer to Appendix A of this memorandum for the Geomorphic Review Assessment.

Operation and Maintenance of the proposed stormwater management system is required for continued mitigation of the water quantity and water quality effects of the additional impervious areas proposed.

While t-bar dispersal devices are commonly used for rural discharges, the use of many t-bars on moderate to high gradient stream banks, with thin proposed lot sizes (compared to typical rural sites) is not typical, and the cumulative effects of these may impact the receiving environment. The t-bars are proposed to meet standards for erosion/scouring and the geomorphic risk assessment includes a recommendation for vegetation below the devices to further aid dispersal and reduce the risk of scour/erosion. The geotechnical report further discusses that geotechnical experts should be involved in their installation. It is noted that a geomorphic/geotechnical risk may exist due to loading of these banks from stormwater due to the high density of t-bar devices (this risk is outside the scope of this assessment).

The applicant has stated the maintenance of these t-bars is proposed to be a consent notice for individual lot owners, approximately 200 are proposed within the development. A 'body corporate' or resident association (as proposed to manage shared stormwater management devices) while not conditioned should be considered to ensure and manage these large number of private lot devices critical to the stormwater management for the site functioning as intended by the design. Poor maintenance over a large number of attenuating and dispersal devices located in close proximity to one another may increase risk of scouring and erosion of the stream banks (and other issues raised above outside the scope of this assessment).

The reticulated stormwater management system, communal raingardens and drainage reserves are proposed to be vested and has been sized for 10% AEP events (refer to DE and HW memos for analysis on flooding and pipe capacities).

Communal raingardens designed per GD01 are proposed for vestment, refer to Healthy Waters memo.

I have undertaken a site visit during the previous iteration of the Delmore proposal.

6.0 Section 67 Information Gap

S67 information gaps have been identified by Council's Geomorphological Specialist and are included within Appendix A of this memo.

7.0 Recommendation

I support this proposal where the proposed amendments to the conditions below are accepted.

8.0 Proposed Conditions

I have reviewed and approve of the conditions within the lodged proposed conditions document. However these conditions do not fully address the stormwater management in particular in the management of private stormwater assets. The following amendment/additional conditions are necessary.

Condition 119, the stormwater management of the private lots should under the stormwater discharge permit, it is recommended that an additional condition. It is recommended rather than Condition 119, a 'stormwater management works' condition, listed under the stormwater permit. A description of the table is provided.

1. 'Stormwater Management Works'

Note this is a description of the stormwater management works condition table recommended:

Specify each treatment device, outfalls, raingardens proposed that are to be included within this discharge consent, this should include the catchment area impervious proposed for each device, and the design requirements of these devices (eg GD01). It is recommended this table could also display the assets to remain private and those which aim to be vested. Two tables could be created to aid in simplifying the consent, one with the proposed vested devices, and the others to remain private (stormwater tanks, t-bar dispersal devices)

Amendments to conditions 109 and 110 are recommended to specify the operation and maintenance plan requirements per standard requirements. These conditions are recommended to be under the Stormwater Discharge Consent and not under the Land Use Consent. See the 'operation and maintenance plan' condition below.

Additionally the enactment of 149 and 163 to require the operation and maintenance plan should be further amended and be provided for under the stormwater discharge consent. The following operation and maintenance conditions (2 – 9) are recommended under the Stormwater Discharge Permit including the incorporation of conditions requiring maintenance records to be held.

2. 'Operation and Maintenance Plan'

An Operation and Maintenance Plan must be provided to and certified by the council **five (5) working days** prior to the commencement of discharge authorised by this consent.

The plan must include

- a. Details of who will hold responsibility for long-term maintenance of the stormwater management system and the organisational structure which will support this process

- b. A programme for regular maintenance and inspection of the stormwater management system
- c. A programme for the collection and disposal of debris and sediment collected by the stormwater management devices or practices
- d. A programme for post-storm inspection and maintenance
- e. A programme for inspection and maintenance for the outfalls
- f. General inspection checklists for all aspects of the stormwater management system, including visual checks
- g. A programme for inspection and maintenance of vegetation associated with the stormwater management devices

3. 'Operation and Maintenance Plan implementation'

The stormwater management system must be managed in accordance with the final Operation and Maintenance Plan prepared in accordance with Condition 2.

4. 'Amendments to the Operation and Maintenance Plan'

Any amendments or alterations to the Operation and Maintenance Plan must be submitted to the the council for confirmation, in writing prior to implementation.

5. 'Maintenance Record'

Details of all Maintenance Records (including inspections, servicing and maintenance) for the stormwater management system must be retained by the consent holder for a minimum of the preceding three years and must be provided to the council on request.

6. 'Contents of maintenance record'

- a. Details of any maintenance undertaken
- b. Details of any inspections, servicing and maintenance completed.

7. 'Maintenance Responsibility'

At the time of issue of the Certificates of Title for Lots (to be specified), a Covenant or other legal instrument to the satisfaction of the Council shall be registered on the titles of Lots (to be specified), requiring that on-site stormwater management works shall be undertaken to comply with the following:

- a) Rain tanks sized for roof runoff from each individual lot shall be designed and constructed to achieve hydrology mitigation in accordance with standard E8.6.3.1(1).
- b) At the time of application for Building Consent, detailed design for the proposed stormwater tank shall be submitted to and approved by the Council.

- c) The rain tanks shall be maintained to ensure the tanks continue to operate as a stormwater attenuation device. In particular, the owner shall not block or remove the part of the tank to be reserved for stormwater management.
- d) The stormwater management devices on each of the individual lots, are to be maintained by the owners of the lots in accordance with the Operation and Maintenance Plan as outlined in **Condition 2 (final number to be inserted by lead planner)** above [to be attached, prepared in accordance with Auckland Council Consent **DIS#####**].

The Council's Solicitor will prepare the Covenant or other legal instrument at the consent holder's expense.

204. This condition is recommend to be amended or an additional specifications of operation and maintenance plan are recommended. Refer to Healthy Waters memo for their comments and specific wording for their recommended changes to this condition.

Appendix A: Geomorphological Specialist Assessment

From:	Danny Klimetz, Principal Waterways Planning, Healthy Waters and Flood Resilience, Auckland Council
Qualifications & Relevant Experience:	I hold qualifications of: Bachelor of Science in Geological Engineering and have 22 years of specialist experience in Fluvial Geomorphology.
Preparation in Accordance with the Code of Conduct:	I confirm that I have read the Environment Court Practice Note 2023 – Code of Conduct for Expert Witnesses, and have complied with it in the preparation of this memorandum. I also agree to follow the Code when participating in any subsequent processes, such as expert conferencing, directed by the Panel. I confirm that the opinions I have expressed are within my area of expertise and are my own, except where I have stated that I am relying on the work or evidence of others, which I have specified.
Date:	26.03.2026

Geomorphological specialist comments are provided to aid the Panel in determining whether the diversion and discharge of stormwater will cause or increase scouring or erosion at the point of discharge or downstream. In terms works which may impact overland flow, the comments are provided to aid the Panel in determining the extent to which scouring and erosion will be managed, and the extent to which the proposal will avoid, remedy, or mitigate effects on stream ecology.

Section 67 Information Gaps

A. Geomorphic Assessment Scope and Methodology

A1.

The Rapid Geomorphic Erosion Assessment (Morphum, 2025) identifies widespread active adjustment across the network, including 9 reaches scoring Considerable Instability and 22 scoring Moderate Instability. The RGEA is an appropriate screening tool. However, it is of my professional opinion that its findings warranted escalation to a more detailed quantitative assessment before definitive conclusions were drawn on setback adequacy, the absence of instream works, and the adequacy of T-bar spreaders as appropriate mitigation.

- Where quantitative or scenario-based follow-up assessment undertaken in response to the RGEA findings, and where is it documented?
- Both Morphum assessments state that this was not quantitative modelling. On what evidential basis are the definitive conclusions regarding setbacks, instream works, and T-bar adequacy derived from an observation-only screening assessment, where instability and risk is so clearly laid out?

A2.

The geomorphic assessment documents an actively adjusting gully system with “estimated” 1-2 m of further bed lowering anticipated across most reaches before bedrock is encountered, common knickpoints migrating upstream, widening by mass wasting, and toe undercutting that is likely to trigger slope instability. Despite this, the assessment concludes no instream works are required and 10 m setbacks are generally adequate.

- Please demonstrate how the conclusion that ‘10 m setbacks are adequate’ follows from the documented geomorphic conditions, specifically accounting for the anticipated vertical adjustment trajectory and associated slope destabilisation, not lateral migration alone.

A3.

Lateral risk in confined gully systems is assessed primarily as planform migration. The RGEA data, site photos, and reach notes document sections of streams already in Stage IV widening, mass wasting slumps, undercut toes, and existing slope instability. In confined systems, lateral adjustment occurs predominantly through gully-wall instability, not meander migration. The assumption of low lateral risk is not defensible on the evidence presented.

- Please provide a revised assessment of lateral adjustment potential that specifically addresses gully-wall instability and mass wasting mechanisms, and its implications for the proposed riparian setbacks and proposed outlet discharge proposals. This should account for long-term incisional processes and toe undercutting, with saturated banks.

B. Setback Adequacy and Riparian Margins

B1.

Riparian setbacks of 10 m are proposed for most reaches. No analysis has been provided demonstrating how a 10 m horizontal setback accommodates future geomorphic adjustment over a 50-100 year planning horizon, including anticipated bed lowering of 1-2 m, progressive bank steepening, and associated slope destabilisation. Setbacks appear to be assumption-based rather than derived from geomorphic analysis.

- For each actively adjusting and potentially actively adjusting reach, please provide a reach-specific justification for the proposed setback that accounts for the full anticipated adjustment trajectory, including vertical adjustment and its lateral consequences.

B2.

Where layout constraints prevent an increase in setback, the engineering response must be explicitly designed and costed for the full anticipated geomorphic adjustment, not current channel conditions. The application does not demonstrate that proposed retaining structures are designed to this standard.

- Where proposed lots or structures cannot be set back to accommodate anticipated channel adjustment, please confirm that all stream-margin retaining and geotechnical structures are designed for the full anticipated bed lowering and bank steepening trajectory, including scour depth assumptions, and that this is documented in the geotechnical design.

C. Post-Development Hydrology and Geomorphic Response

C1.

The geomorphic assessment acknowledges that development will alter the stream hydrograph, increasing flow peaks and efficiency of delivery. No analysis is provided of how post-development hydrology, including increased imperviousness, altered flow duration and frequency, and more efficient stormwater conveyance, will interact with the active geomorphic processes documented across the network.

- Please provide an assessment of how post-development hydrological changes will affect the rate and extent of channel incision, knickpoint migration, and bank widening across the network.

C2.

The hydraulic model (McKenzie & Co, drawings 3725-0-4506 and 3725-0-4507) shows post-development 50% AEP velocities at monitored locations. These figures were not considered or referenced in the Morpium Geomorphic Assessment or Geomorphic Response Memo, despite forming part of the same application package. Key findings include:

Location D: velocity increases from 0.79 to 1.10 m/s (+39%), crossing the critical erosion threshold for moderately consolidated clay at the 50% AEP.

Location E: velocity increases from 0.10 to 0.69 m/s (+590%), a near-sevenfold increase at the 50% AEP, shifting a previously depositional reach into active erosion at near-annual recurrence.

Locations A and F also show post-development velocity increases.

Location I records 1.97 m/s in both pre- and post-development scenarios, persistently above the erosion threshold with no mitigation proposed.

The SMP (section 9.9) states that the geomorphic assessment confirms the stormwater strategy will not adversely affect geomorphic risk. The hydraulic model data contradicts this conclusion.

- Please explain how this internal inconsistency in the application documentation has been resolved.

C3.

At the 10% AEP, post-development velocities show reductions of approximately 10 to 26 percent at several locations. This is noted. However, even with these reductions, velocities at multiple locations remain above the critical erosion thresholds for the silt/clay channel materials documented across the network. The application does not demonstrate that the network is designed to accommodate the geomorphic forces generated by flows at and below the 10% AEP.

- Please demonstrate that the stormwater network design accounts for the geomorphic forces generated by the full range of flows from the 10% AEP downwards, whether through increased channel resistance, adequate setbacks for adjustment, or both.

C4.

The hydraulic model provides peak velocity snapshots at the 50% AEP and 10% AEP. No long-term gauged flow record exists for this catchment, and no flow frequency or duration analysis has been provided. Channel morphological adjustment is governed by the frequency and cumulative duration of flows exceeding the erosion threshold, not by peak velocity or depths at selected AEP events alone.

Without this analysis, the claim that the stormwater strategy maintains geomorphic equivalence cannot be evaluated.

- In the absence of a gauged flow record, what approach has been used to assess how frequently and for how long erosive threshold conditions are exceeded at key reaches under post-development conditions?
- If this analysis cannot be produced, please confirm that the precautionary principle has been applied in the design response, specifically through increased setbacks or enhanced channel resistance at reaches where post-development velocities exceed or approach erosion thresholds.

D. Stormwater Management, Culverts, and Geomorphic Interaction

D1.

The pre-application meeting of 27 November 2025 included a request for flows and velocities through culverts to be included on plans and assessed geomorphically. This was to assist the Streamworks specialists' assessment. Velocity figures have been added to culvert drawings (series 3725-1-4800). Adding velocity numbers to drawings is not the same as a geomorphic assessment of those velocities.

- Please provide a geomorphic risk assessment of the culvert velocity data, addressing whether those velocities are consistent with channel stability at those locations and whether the culvert design is appropriate given the geomorphic trajectory of the receiving reaches.

D2.

The installation of road culverts across multiple reaches will create a long-term operational requirement to remove large woody debris (LWD) from channels upstream of crossing structures to maintain conveyance capacity. LWD is the primary natural mechanism by which small steep streams in this setting dissipate flow energy, store sediment, and stabilise bed and bank materials. Its systematic removal accelerates bed incision, the dominant geomorphic process already documented across this network. This feedback is not addressed in any of the application documentation.

- Please provide a large woody debris management plan addressing how LWD within the riparian buffer will be managed to retain geomorphic function alongside culvert maintenance obligations.

D3.

The geomorphic assessment assumes no instream works will be undertaken. Despite this, the application documents active headcuts, culvert scour, mass wasting, rapid incision, outer-bend erosion, and toe undercutting across multiple reaches. The blanket exclusion of instream works as an option is inconsistent with the conditions described.

- Please confirm whether targeted instream stabilisation works are proposed or available as a response to ongoing geomorphic adjustment, and if not, on what basis they have been excluded given the conditions documented.

E. Geotechnical Structures: Design, Ownership, and Liability

E1.

The groundwater monitoring programme covers approximately two months (November to December 2024), capturing early summer conditions only. The GIR identifies saturated groundwater conditions as

the primary driver of existing instability across the site. Wet season peak groundwater conditions, typically occurring late winter to spring in Auckland, have not been captured.

- Please confirm if additional groundwater monitoring has been undertaken to capture wet season conditions, and how this informs the groundwater model underpinning the stability analyses.

E2.

Geotechnical measures address slope stability at specific cross-sections. They do not control ongoing channel evolution, prevent knickpoint retreat, manage progressive gully expansion, or account for downstream consequences of altered sediment supply and bed levels. The stability analyses confirm that factors of safety are met within the development area under the assumed adjustment parameters. They do not demonstrate that the geomorphic trajectory of the network has been arrested or that conditions will remain stable beyond the 50-year design window.

- Please demonstrate how the proposed geotechnical measures address ongoing channel evolution across the network, not only localised slope stability at the specific cross-sections analysed.

E3.

The ownership, maintenance, and liability framework for stream-margin retaining and geotechnical structures has not been resolved. These structures are proposed along actively incising channel margins where ongoing scour is anticipated. The stability designs are concept-level, with further amendments expected during detailed design and confirmed on-site during construction. Future landowners and Council should not inherit maintenance obligations or liability for structures whose consent-level design is explicitly described as preliminary.

- Please provide a draft consent condition confirming that all retaining and geotechnical structures along stream margins remain in private ownership and will not be vested to Council.
- Please confirm the proposed arrangement for ongoing inspection, maintenance, and renewal of all stream-margin structures over their design life, including who is responsible and how costs are met.
- Please confirm what recourse exists if a structure fails due to stream toe erosion within the design life of the development.

F. Wetland Channelisation Risk

F1.

The geomorphic assessment identifies that multiple wetlands may rapidly convert to incised channels if upstream incision or knickpoint migration reaches them. No timeline or likelihood assessment is provided, no assessment of sediment release or downstream effects is made, and no mitigation or design response is recommended beyond monitoring.

- Please provide an assessment of the likelihood and indicative timeframe for knickpoint migration to reach wetland systems at each at-risk location under post-development conditions.
- Please specify the monitoring programme for wetland channelisation risk, including indicators, frequency, responsible party, intervention triggers, and the funded remediation pathway if channelisation is detected.

G. Property Documentation and LIM Notations

G1.

The geomorphic risks documented across this site, including ongoing channel incision, knickpoint migration, gully-wall instability, and associated slope adjustment, are expected to continue and affect properties adjacent to the stream network over their design life. Future landowners should be informed of these risks and of their maintenance obligations at the time of purchase.

- Please confirm what language will be recorded on the property file and any Land Information Memorandum (LIM) for all lots within or adjacent to the riparian margin:

Proposed Conditions

Proposed conditions or specific comments on draft conditions have not been provided as the matters raised need resolved by the applicant team first.