



HYDROGEOLOGY • GEOTECHNICAL ENGINEERING • ENGINEERING GEOLOGY

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11 November 2025

The Manager  
Auckland Council  
Private Bag 92-303  
**Auckland 1142**

**Attention: Mr Doug Fletcher**  
Principal Project Lead, Premium Resource Consents Team  
[REDACTED]

Dear Doug

**RE: PEER REVIEW OF WWLA HYDROGEOLOGICAL REPORT  
FAST TRACK SUTTON BLOCK – DRURY QUARRY CONSENTING  
BUN60449474-FTAA-2503-1037**

## **1. Background**

The EPA panel commissioned Williamson Water and Land Advisory (WWLA) to carry out an independent peer review of the hydrogeology aspects of the Drury Quarry Sutton Block Expansion Application. WWLA has prepared the following report:

WWLA (2025). *Fast Track Approvals Act (FTAA): Drury Quarry Expansion – Sutton Block Hydrogeological Review*. Report prepared for EPA dated 4 November 2025, ref WWLA 1632.

Earthtech Consulting Limited (ECL) has been providing advice to the Auckland Council regarding the Application and has been requested to review WWLA (2025).

This letter adopts the order of the technical assessment points listed in WWLA (2025).

## **2. Comments on WWLA Assessment of Hydrogeological Effects**

### **2.1 Deep Greywacke Aquifer Dewatering Effects**

#### **A. Zone of Dewatering Influence**

PDP (2025)<sup>1</sup> adopted an analytical calculation method (Dupuit-Forchheimer Method) to determine a radius of influence that extends up to 7.5 kilometres to the north, east and south of the quarry. We understand that PDP adopted an aquifer recharge rate of 60mm/yr which is considered reasonable for the deep greywacke aquifer.

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<sup>1</sup> PDP (2025). Proposed Sutton Block Expansion Groundwater and Surface Water Effects Assessment. Report prepared for Stevensons Aggregates Limited dated 25 March 2025. Ref A02447709.

WWLA (2020) used an alternative stream baseflow analysis to determine deep aquifer recharge and predicted a similar zone of quarry dewatering influence up to 7.5 kilometres to the east, with a lesser extent to the north and south.

ECL considers that the WWLA (2025) alternative analysis generally supports the PDP (2025) assessment.

The PDP (2025) predicted zone of influence extending up to 7.5 kilometres to the north, east and south of the quarry is considered appropriate for consenting and no changes to existing draft conditions are required.

#### B. Quarry Pit Inflows

PDP (2025) has predicted a maximum groundwater inflow of  $19,426\text{m}^3/\text{d}$  (including a contribution from aquifer storage) at the final Stage 5 of quarrying. Condition 165a limits the daily groundwater take to  $19,426\text{m}^3/\text{d}$ .

WWLA (2025) using an alternative analytical method (Marinelli and Niccoli Method) predicts groundwater inflow for Stage 5 much higher at  $109,000\text{m}^3/\text{d}$ .

ECL has reviewed the PDP (2025) calculation and considers that on the basis of deep aquifer recharge of  $60\text{mm}/\text{yr}$  and a 7.5 kilometre radius of influence, the  $19,426\text{m}^3/\text{d}$  is reasonable. On the basis of the ECL checking, the WWLA (2025) prediction is too high.

ECL considers that the daily and annual groundwater take of  $19,426\text{m}^3/\text{d}$  and  $7,090,517\text{m}^3/\text{yr}$  is appropriate for the consenting of dewatering to RL-60m (Conditions 165 and 166).

The technical reviews to be carried out with the quarry floor at RL90m and RL60m (Condition 171) provide an early check of the likely maximum dewatering volumes. If a higher maximum take is required, then Condition 165a would need to be varied as part of a subsequent RMA s127 or other process. At that time all groundwater effects would be reassessed.

## 2.2 Streams

WWLA has identified “missing” groundwater when considering the water balance of pit inflows and loss to stream baseflows.

ECL understands, from PDP (2025) Section 6.3, that stream augmentation will be based on measured reductions in baseflow conditions. Therefore, the water balance query raised by WWLA has limited significance.

## 2.3 Groundwater Monitoring

WWLA supports the additional groundwater monitoring point MG1 (shallow and deep) requested by ECL (2025)<sup>2</sup>, but with a location 2.5 kilometres to the west (closer to quarry pit). The WWLA MG1 position option is located on a ridge crest.

ECL still considers its MG1 location to be more appropriate as it provides important groundwater-surface water interaction monitoring data due to the bore position immediately

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<sup>2</sup> ECL (2025). Technical Specialist Memo – Groundwater Drury Quarry Expansion Application, dated 19 September 2025.

adjacent to the Mangawheau Stream. ECL understand that following the groundwater expert conferencing, MG1 shallow and deep is to be drilled at the end of Stage 2 Quarrying.

## 2.4 Groundwater Consent Conditions

### A. Condition 182

WWLA (2025) requests that stream augmentation for the Maketu and NT1 catchments be based on the maintenance of mean annual low flow rather than prescribed volumes linked to quarry stages (Condition 182 – Schedule C).

ECL agrees with the WWLA position and requests that Condition 182 be amended to reflect the requirements for the Mangawheau and Hingaia Tributary Streams. The suggested replacement Condition 182 is as follows:

**182. Augmentation rates must maintain mean annual low flows as determined by stream flow gauging.**

### B. Condition 191

Condition 191 requires stream augmentation when monitoring shows an established trend of reduced specific discharge over three consecutive years.

WWLA (2025) is concerned that in order to observe any quarry dewatering effect, three back-to-back dry years would be required which is unlikely.

ECL agrees with the WWLA concern and proposes the following change to Condition 191.

191. The augmentation must be undertaken only if ~~three consecutive years (i.e. 6 rounds of flow gauging) of reduced specific discharge (L/s/km<sup>2</sup>)~~ reduced specific discharge is established from stream flow gauging for the total monitoring record for the new gauging stations ~~have been detected~~ that:

- (a) Can be attributed to the Site's dewatering; and
- (b) Is not caused by drought conditions.

Yours sincerely



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EARTHTECH CONSULTING LTD