Volume J: Summary of Mitigations

Subject Matter	Summary of Mitigation and Condition Response
Earthworks	• Earthworks will be undertaken across a staged construction programme. Staging ensures progressive disturbance only, with environmental controls installed prior to and throughout each phase • Pre-start meetings required prior to each stage to confirm methodology, staging, responsibilities, and environmental controls with Council and contractors. • A Construction Management Plan (CMP) and Environmental Management Plan (EMP) will guide all works, with the EMP acting as a live document that is monitored and updated throughout construction. Both plans are required to be certified by Council. • Erosion and sediment controls (e.g. diversion bunds, silt fences, sediment ponds) will be installed prior to and during earthworks in accordance with ORC and QLDC guidelines. • Sensitive environments (streams and wetlands) will be protected through setbacks and fencing, avoiding direct disturbance (except where identified within the application). • Monitoring is required through regular inspections, SQEP oversight, adaptive EMP updates, and compliance reporting to ensure all erosion, sediment, and environmental controls remain effective throughout construction.
Contaminated land	• All soil disturbance on site will be undertaken in accordance with the Remedial Action Plan (RAP) and Contaminated Site Management Plan (CSMP) to guide soil handling, management of contaminated material and disposal during construction. Final plans are required to be certified by ORC and QLDC. • Contaminated material will be removed or disposed of at appropriately licensed facilities, with tracking and documentation as required. • On-site management measures (e.g. dust suppression, containment, separation of clean/contaminated soils) will be implemented to avoid adverse effects on human health and the environment. • Unexpected contamination protocol to be followed, including cessation of works, notification, and implementation of appropriate management measures. • Monitoring and validation of remediation works (where required), including reporting to Council to demonstrate that risks have been appropriately managed.
Construction noise and vibration	• Preparation and implementation of a Construction Noise and Vibration Management Plan (CNVMP), certified by Council prior to works. • Construction noise to comply with NZS 6803:1999 Construction Noise, and vibration to comply with DIN 4150-3 criteria. • Restriction of construction hours to daytime periods (7:30am–6:00pm, Monday–Saturday). • Implementation of mitigation measures identified in the CNVMP (e.g. acoustic barriers, management of construction activities). • Noise and vibration monitoring as set out in the CNVMP, including monitoring in response to complaints. • Communication and complaints management procedures, including notification of neighbouring receivers and contact details.

Ecological	• Ecological effects will be managed through a combination of avoidance, mitigation, and enhancement measures informed by the Ecological Impact Assessment. • A Lizard Management Plan (LMP) will be implemented, including salvage and relocation of lizards under Wildlife Act authority, and release into suitable protected and enhanced habitats. LMP to be certified by Council. • A Fish Management Plan (FMP) will be implemented to manage works within aquatic environments, including fish salvage and relocation where required. FMP to be certified by Council. • A Pest Animal Management Plan (PAMP) will be implemented, including predator and herbivore control, monitoring, and adaptive management to support ecological restoration and fauna outcomes. PAMP to be certified by Council. • A Revegetation / Restoration Plan will be implemented, providing for the establishment of approximately 103 hectares of indigenous vegetation, including shrubland, tussockland, and riparian planting. • Vegetation clearance will be managed to minimise ecological effects, including ecological supervision where required and restrictions on clearance during bird breeding season unless confirmed by a qualified ecologist.
Archaeology	• All works will be undertaken in accordance with any Archaeological Authority issued under the Heritage New Zealand Pouhere Taonga Act 2014 (HNZPTA), including compliance with any conditions of that authority. • An Accidental Discovery Protocol (ADP) will be implemented during all earthworks, requiring works to cease immediately if archaeological material is discovered, and appropriate notification and management procedures to be followed. • In the event of a discovery, works will not recommence until approval is provided by Heritage New Zealand Pouhere Taonga and any other relevant parties, and any required mitigation or investigation has been completed. • Where required, archaeological monitoring will be undertaken during earthworks by a suitably qualified archaeologist. • Engagement with mana whenua representatives will be undertaken where archaeological material or sites of cultural significance are identified, including involvement in discovery responses where appropriate. • Any archaeological material recovered will be recorded, managed, and stored in accordance with the requirements of Heritage New Zealand Pouhere Taonga and relevant conditions.
Heritage	• A Heritage Construction Management Plan (Heritage CMP) will be prepared by suitably qualified professionals and submitted to Council for certification prior to works affecting identified heritage buildings. The plan will detail construction methodology to avoid or mitigate damage to heritage fabric.
Landscape and visual	• Retention and reinforcement of landscape buffers, including boundary planting and internal vegetation, to enclose built form and limit visibility from surrounding roads and public viewpoints. • Implementation of extensive native revegetation (including Morven Hill and the Kawarau River corridor) to enhance natural character, biodiversity, and landscape values, and offset development effects.

	• Setbacks of built development from key interfaces (including Morven Ferry Road and the Kawarau River escarpment) to maintain visual separation and reduce prominence of development. • Use of planting and landform to screen development from key viewing audiences, including local roads and recreational trails, ensuring development is largely contained within the site. • Integration of development with existing landform, including retention of hummocky terrain, gullies and natural features as open space to break up built form and maintain landscape legibility. • Concentration of built form within lower visibility areas, with limited development on prominent slopes and avoidance of visually sensitive ONF areas where practicable. • Design and colour treatment of infrastructure (e.g. water tanks, pump stations) to reduce visual contrast, combined with planting to provide additional screening. • Establishment of open space corridors and green links to maintain visual openness and provide a transition between development and surrounding landscape features. • Staged landscape implementation, ensuring planting is established early to provide effective mitigation as development progresses.
Subdivision design and architecture	• Development to be subject to Architectural Design Controls / Design Guidelines, including: o Controls on building height, scale and bulk to ensure buildings remain subservient to the landscape. o Use of materials and colours consistent with the local alpine and rural character to reduce visual contrast. o Requirements for articulation and variation in building form to avoid visual monotony. o Integration of garaging, servicing and utilities to minimise dominance in streetscape views. o Controls on roof form and building orientation to respond to topography and views.
Operational traffic and transport effects	• Upgrade of the State Highway 6 / Morven Ferry Road intersection to a roundabout, to maintain safe and efficient operation of the network, to be undertaken prior to the relevant development threshold (Phase 3 / approximately 321 units), as identified in the Transport Assessment. • Upgrade of the State Highway 6 / Arrowtown–Lake Hayes Road intersection, including seagull treatment and associated approach lane improvements, with timing to be agreed with NZTA, reflecting traffic demand and network performance. • Upgrade of Morven Ferry Road, including carriageway widening, provision of shoulders, shared pedestrian and cycle path, and stormwater infrastructure, to be undertaken prior to initial occupation to provide safe site access. • Staging of transport infrastructure upgrades to align with development, including delivery of key upgrades prior to identified occupation thresholds, as set out in the Transport Assessment and conditions of consent. • Provision of a park-and-ride facility to support public transport use and reduce reliance on private vehicles, where confirmed within the Transport Assessment scope.

	• Internal road layout designed to accommodate future public transport services, including provision for bus circulation. • Development of an integrated walking and cycling network, including off-road trails and connections to the wider regional trail system. • All works to be undertaken in accordance with approved engineering plans and transport infrastructure design, including road layout, access, and intersection treatments. • Design and construction of all roads and transport infrastructure in accordance with the QLDC Land Development and Subdivision Code of Practice (2025). • Implementation of Construction Traffic Management Plans to manage construction traffic effects on the surrounding networ
Odour	• Preparation and implementation of an Odour Management Plan (OMP) by a suitably qualified expert prior to operation, including ongoing review and updates. • Containment and collection of odorous process air from key WWTP components (e.g. screening, tanks, storage, dewatering), with venting to an odour treatment system. • Treatment of process air via a biofiltration system, including design, operation, and maintenance to ensure effective removal of odorous compounds. • Subsurface drip irrigation of treated wastewater to minimise odour exposure to air and reduce emission potential. • Spray irrigation controls, including setbacks from sensitive receptors, system design to prevent stagnation, and operational measures to minimise spray drift. • Design and operation of systems to prevent anaerobic conditions (e.g. aeration of storage, flushing of irrigation lines). • Routine inspection and maintenance of the WWTP and irrigation areas to identify and promptly remedy leaks, ponding, or abnormal odour sources. • Incident response and complaint management procedures, including logging, investigation, corrective actions, and notification to Council of any odour-related incidents or plant malfunctions. • Backup systems and redundancy measures (e.g. generator, biofilter design) to maintain odour treatment during power outages or maintenance.
Wastewater Discharge	• Preparation and implementation of a Wastewater Treatment Plant (WWTP) Operational Management Plan, detailing operation, maintenance, monitoring, and contingency measures. • Preparation and implementation of a Wastewater Land Application Management Plan (WLAMP), setting out irrigation design, loading rates, operational controls, monitoring, and maintenance of land application areas. • Design and operation of the WWTP to ensure high levels of treatment prior to discharge, including containment and treatment of process streams. • Disposal of treated wastewater via land application systems, including subsurface drip irrigation to minimise surface discharge and environmental effects. • Design and management of irrigation areas to prevent ponding, runoff, and surface seepage, including appropriate loading rates and system controls. • Implementation of monitoring programmes (e.g. effluent quality, system performance, land application areas) to ensure compliance with consent conditions.

Water Supply	• Design and construction of a reticulated potable water supply system in accordance with approved engineering plans and the QLDC Land Development and Subdivision Code of Practice (2025). • Provision of adequate water supply and storage infrastructure, including reservoirs and pump stations, to meet operational demand and firefighting requirements. • Treatment of potable water to appropriate standards, ensuring compliance with relevant drinking water requirements prior to supply. • Design and operation of the system to ensure reliability and resilience, including redundancy measures (e.g. backup power, storage capacity) to maintain supply during outages. • Installation and operation of a water metering and telemetry system and annual monitoring and reporting to ORC.
Stormwater Management	• Stormwater infrastructure will be designed to manage rainfall events up to the 1% AEP (100-year event), with primary systems (pipes and swales) managing minor events and secondary overland flow paths safely conveying exceedance flows. • Peak discharge rates will be controlled to maintain or reduce pre-development flows, avoiding adverse effects on downstream properties and receiving environments. • A treatment train approach will be adopted, including swales, raingardens, and constructed wetlands to remove sediments, nutrients, hydrocarbons, and other contaminants prior to discharge. • Attenuation basins and detention ponds will provide temporary storage and controlled release of stormwater, including climate change allowances in design rainfall intensities. • The system will include defined overland flow paths and spillways to ensure floodwaters remain within controlled corridors and do not impact buildings or infrastructure. • Finished floor levels and freeboard requirements will be implemented to ensure buildings are protected from flooding. • Stormwater infrastructure will be subject to ongoing maintenance and monitoring, including sediment removal, vegetation management, and inspection of conveyance and treatment devices to ensure long-term performance.
Servicing Infrastructure	• All infrastructure required to service the development will be designed, constructed, owned, and maintained by a private infrastructure entity, ensuring long-term operational responsibility and funding without reliance on Council networks. • Conditions proposed to ensure three waters infrastructure, power and telecommunications is in place prior to section 224c certification.
Geotechnical	• Geotechnical supervision of all earthworks and retaining wall construction, undertaken by an appointed SQEP. • All works to be carried out in accordance with the recommendations of the Geotechnical Assessment, including earthworks methodologies and construction practices. • Adaptive management of ground conditions, requiring reassessment and redesign by a suitably qualified engineer where site conditions differ from those

	anticipated, with revised methodologies submitted to Council prior to continuation of works. • Implementation of site stabilisation measures where required, including interim works to maintain stability where unexpected conditions are encountered. • All physical works, including earthworks and retaining structures, to be undertaken in accordance with the QLDC Land Development and Subdivision Code of Practice (2025).
Cultural Values	• Ongoing engagement with mana whenua to inform detailed design, management plans, and construction processes, noting that engagement is continuing and outcomes are yet to be finalised. • Implementation of an Accidental Discovery Protocol during all earthworks to manage any previously unidentified archaeological or cultural material, including cessation of works and notification procedures. • Integration of cultural considerations into project design and environmental management measures, where identified through the Cultural Impact Assessment and ongoing engagement. • Provision for cultural monitoring of earthworks, where required by consent conditions. • Development and implementation of Environmental Management Plans (including erosion and sediment control, and water management measures) to manage potential effects on cultural values associated with land and water Note: These measures and draft conditions have been prepared to support ongoing engagement with mana whenua. They have not yet been reviewed or endorsed and may be refined through further consultation.