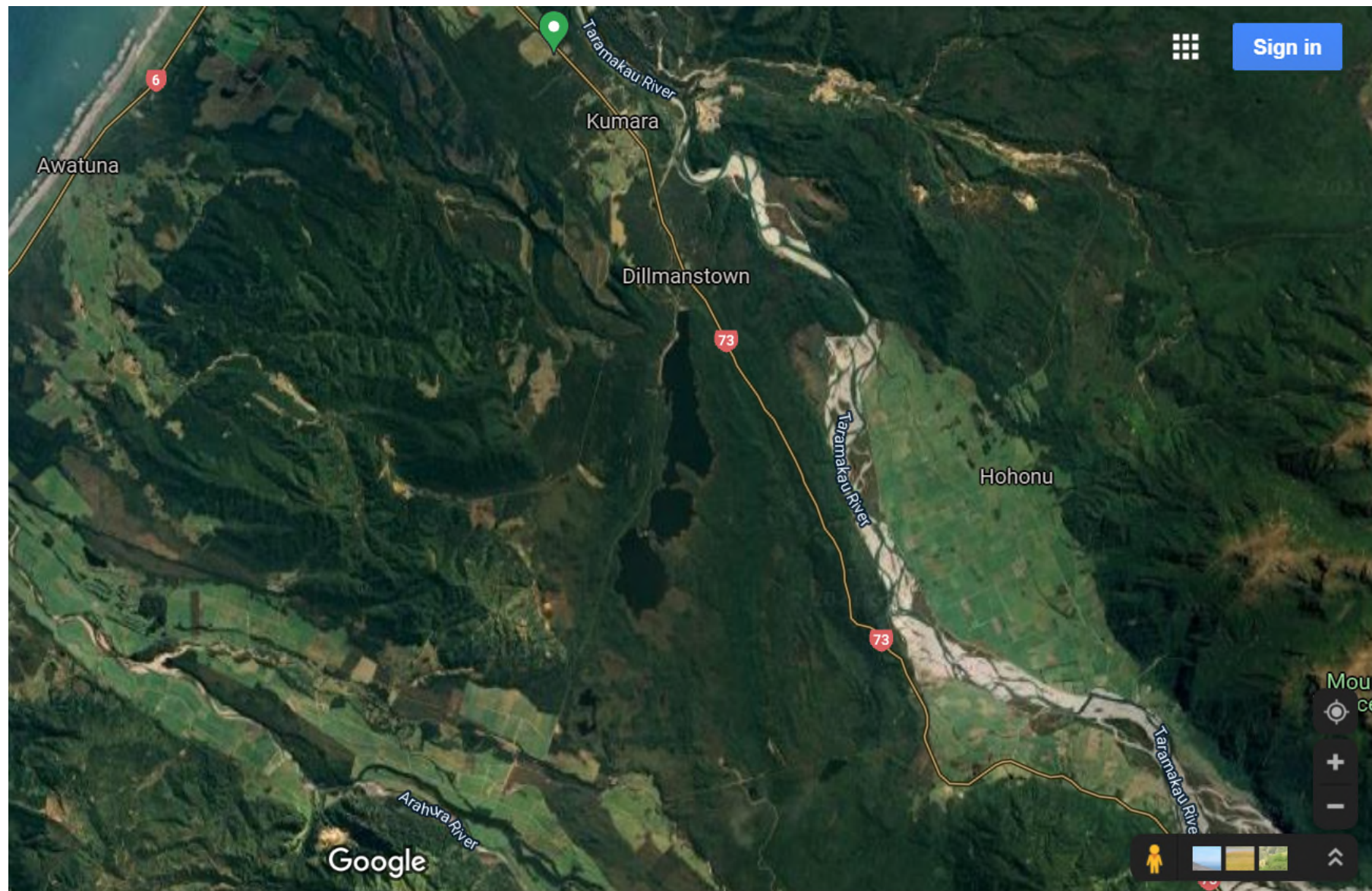


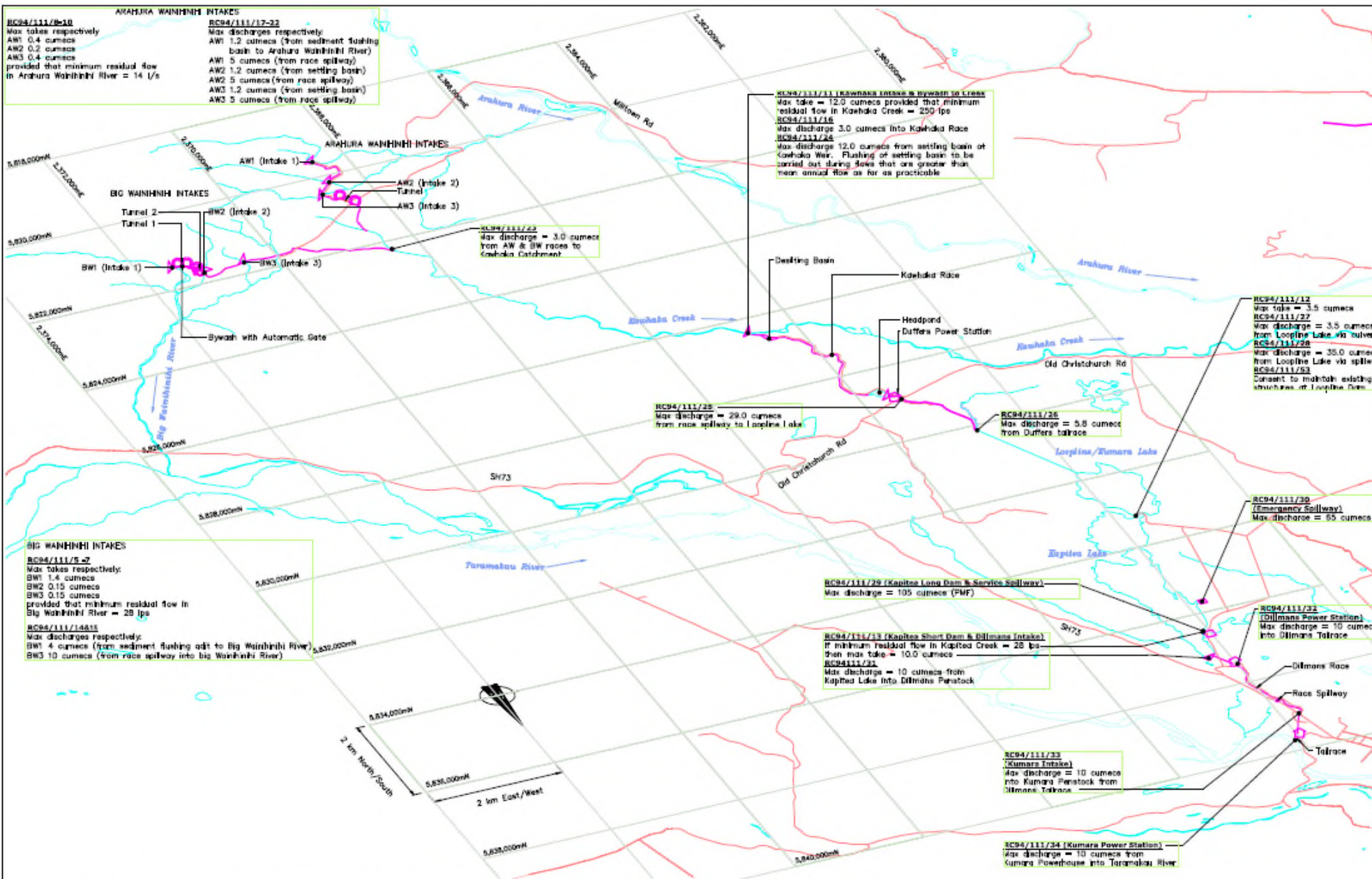
Introductions

- **Consenting Project Team**
- **Local Team – Local Assets – Lead by Tim Brownlee**
- **Trustpower/Manawa Energy/ Future Changes**



Scheme Overview





Grid in terms of New Zealand Map Grid (NZMG) and Geodetic Datum NZGD49. Crown Copyright reserved.

LEGEND

- Road
- Stream or river
- Lake

TrustPower Ltd
 Environmental & Engineering Consultants

Tonkin & Taylor
 Environmental & Engineering Consultants

DMK Jun 14

APPROVED

DATE

SCALE

NTS

PROJECT No.
24061

TrustPower Ltd
 Resource Consent Compliance Key Figures
 Kumara Dillmans Duffers Hydro Power Scheme
 Schematic Layout

FIG. No. Figure 13

REV. 0



Dam Safety Upgrades – Seismic Strengthening

Loopline Dam

- **Consenting Now – Construction likely next summer (2022-2023)**

Future plans – still scoping

- **Long Dam and Kapitea Spillway strengthen and upgrade**
- **Short dam – strengthen dam toe, strengthen intake platforms**
- **Canal strengthening**

Loopline Dam Upgrade - Overview

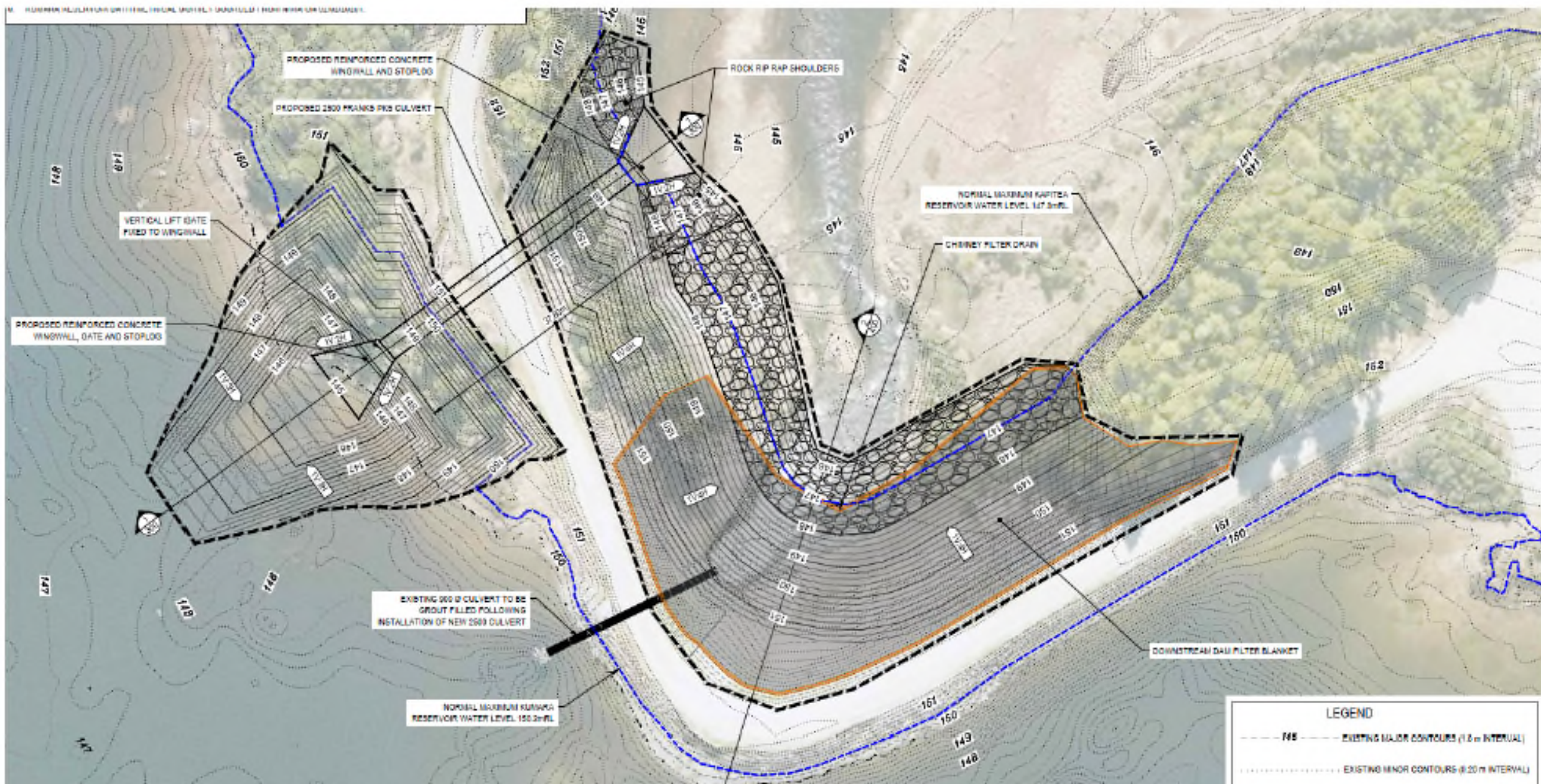
Key outcomes of the works are to:

- improve the seismic safety performance of the embankment dam itself.
- provide increased and controlled hydraulic connectivity between the Kumara and Kapitea reservoirs for peak generation capacity.
- provide flow control and buffer storage during the upgrade to the Kapitea Primary Spillway and Kapitea Short Dam projects.

Proposal:

- Install buttress on downstream side of the dam to strengthen the dam
- The existing 900 mm diameter pipe through the embankment will be replaced by a 2.5 m diameter pipe on the true left dam abutment.
- A gate valve will be installed on the upstream pipe to allow flows through the pipe to be controlled including during upgrade works to Kapitea dams and structures, as well as post construction to enhance generation management.

LOOPLINE - CONCEPT DESIGN FOOTPRINT



Work Underway – Technical Input

- **Engineering – design and construction underway**
- **Environmental Technical assessments**
 - Terrestrial/Wetland ecology
 - Aquatic ecology
 - Archaeology
 - Hydrology

Next Steps - Consultation – External Parties

- DoC
- Land owners – construction effects if any
- Tangata Whenua
- Cycleway – Committee notified today
- ???