Plimmerton Flood Response Project

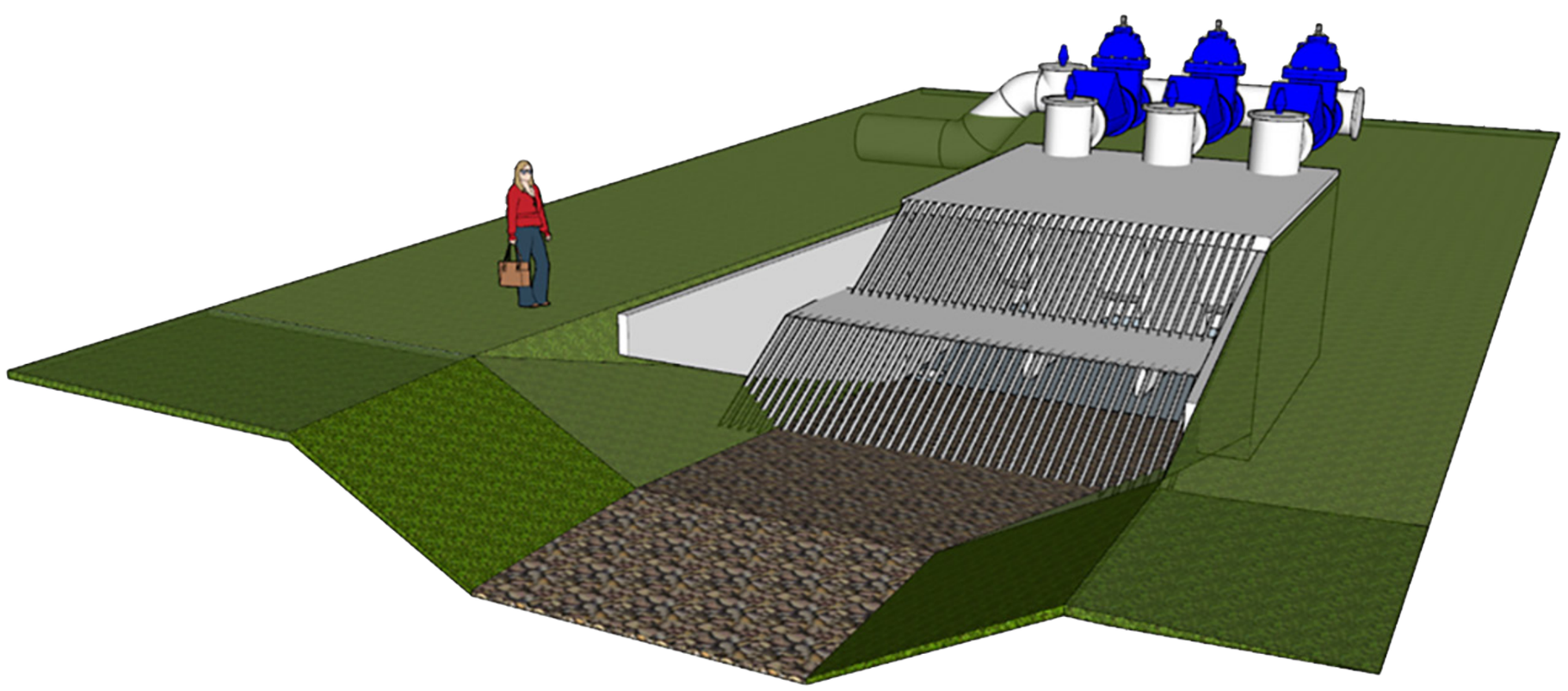
1

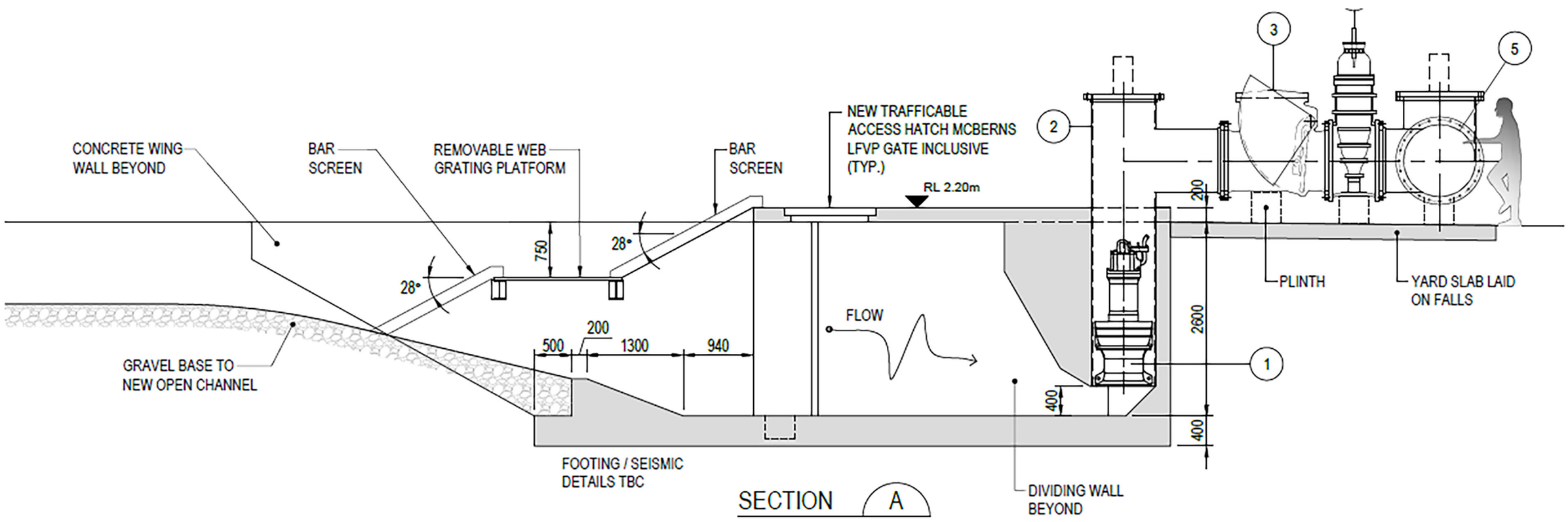
Karehana Park pump station concept design

These concept designs give an indication of the size and scope of the works. The final design may differ in some respects.

Landscaping plans will be developed.

Safety measures to prevent public access to the pump station are not shown but will be included in the detailed design.





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Plimmerton Flood Response Project

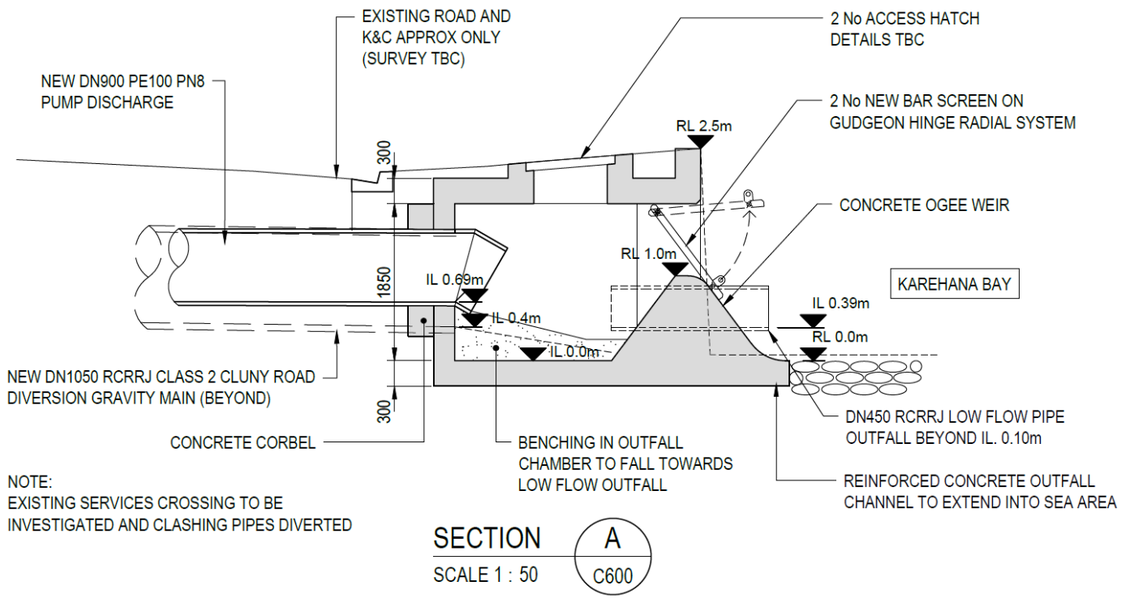
1a

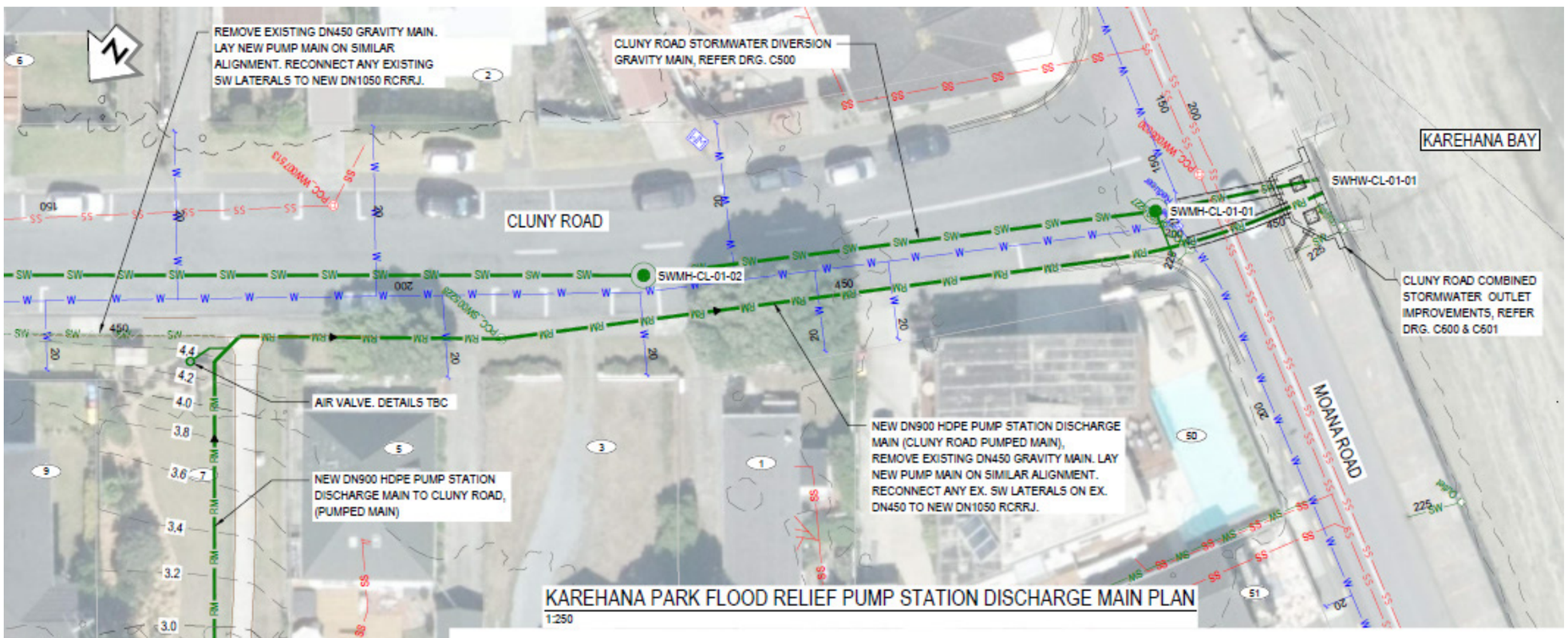
Karehana Park pump station, swale and outlet concept design

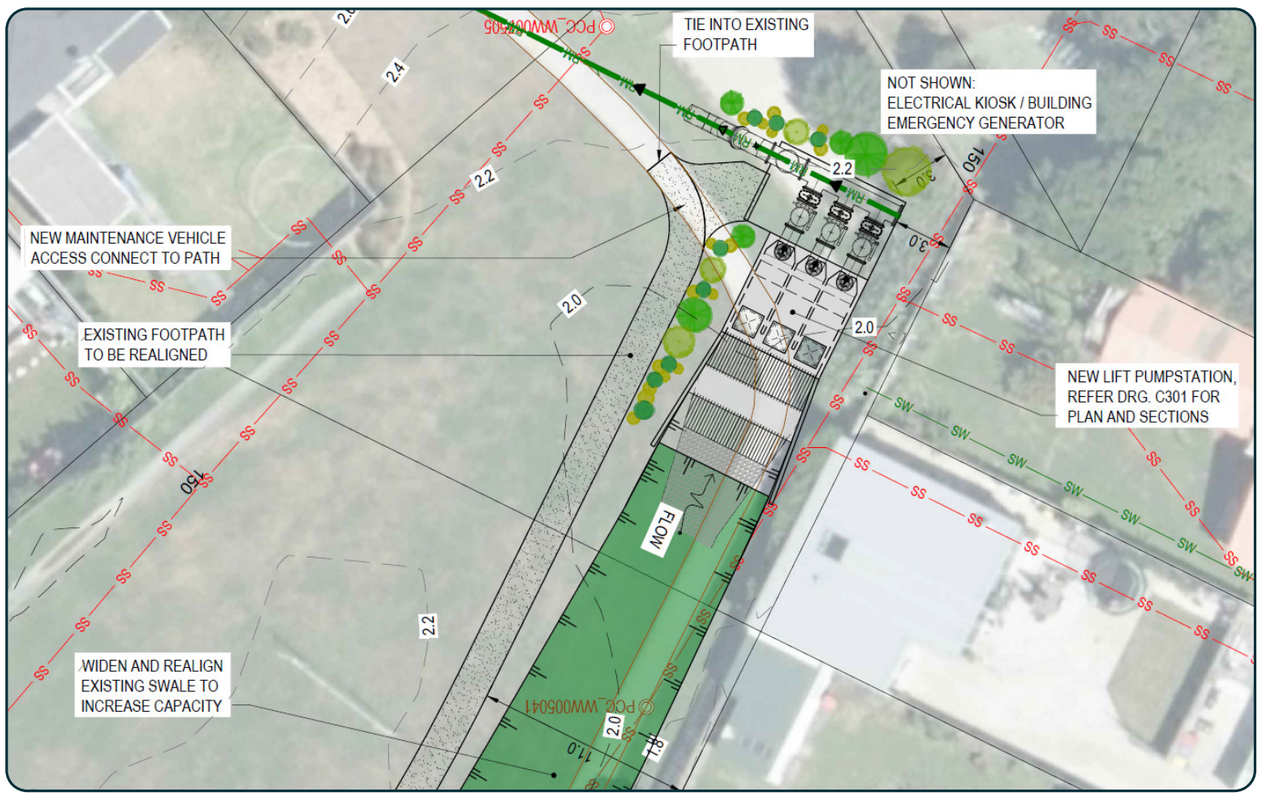
These concept designs give an indication of the size and scope of the works. The final design may differ in some respects.

Landscaping plans will be developed.

There will be an electrical building, with detailed design to come.







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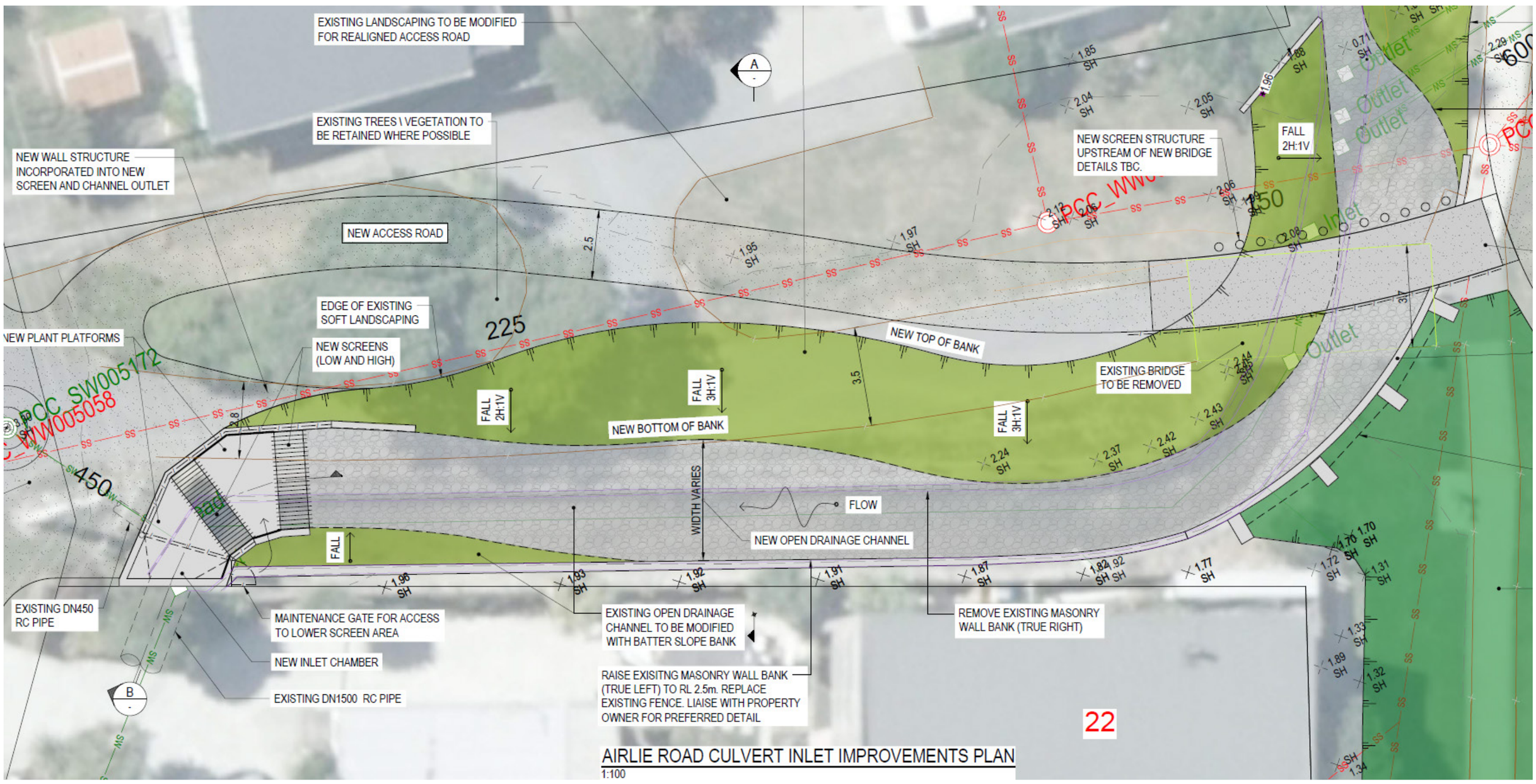
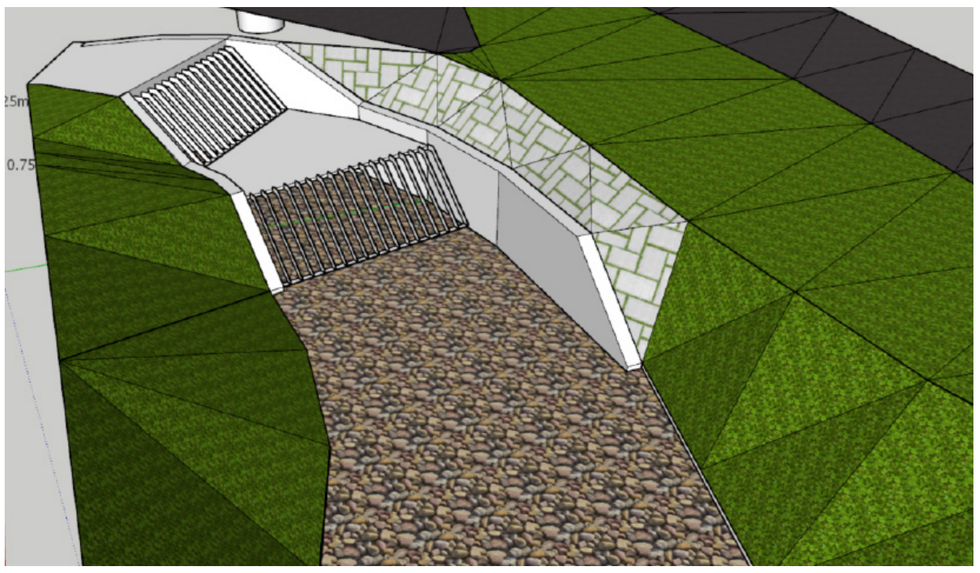
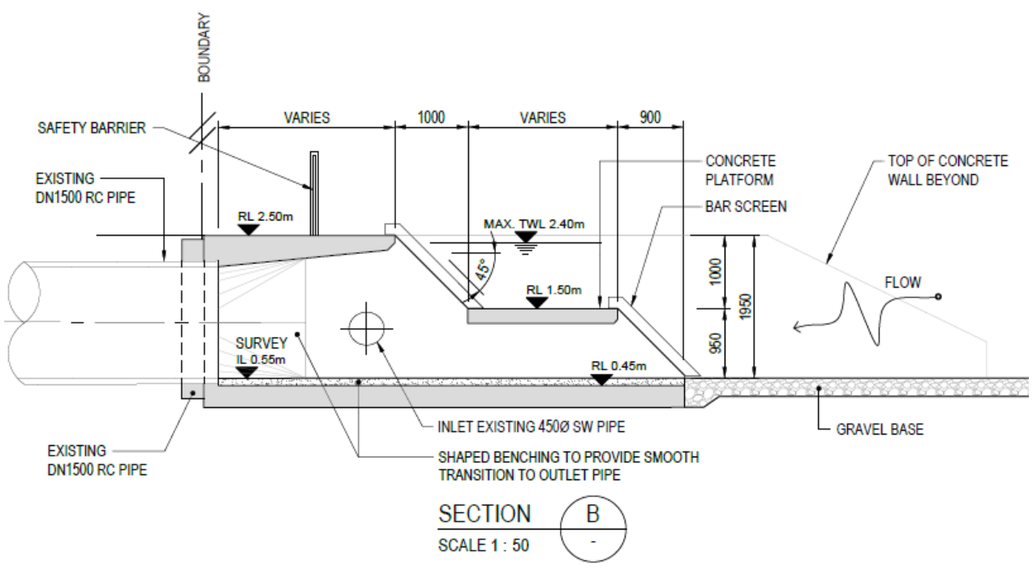
2

Airlie Road inlet improvements concept design

This concept design gives an indication of improvements to the Airlie Road culvert inlet and surrounding area. The final design may differ in some respects. More detailed plans will be developed in discussion with neighbouring property owners.







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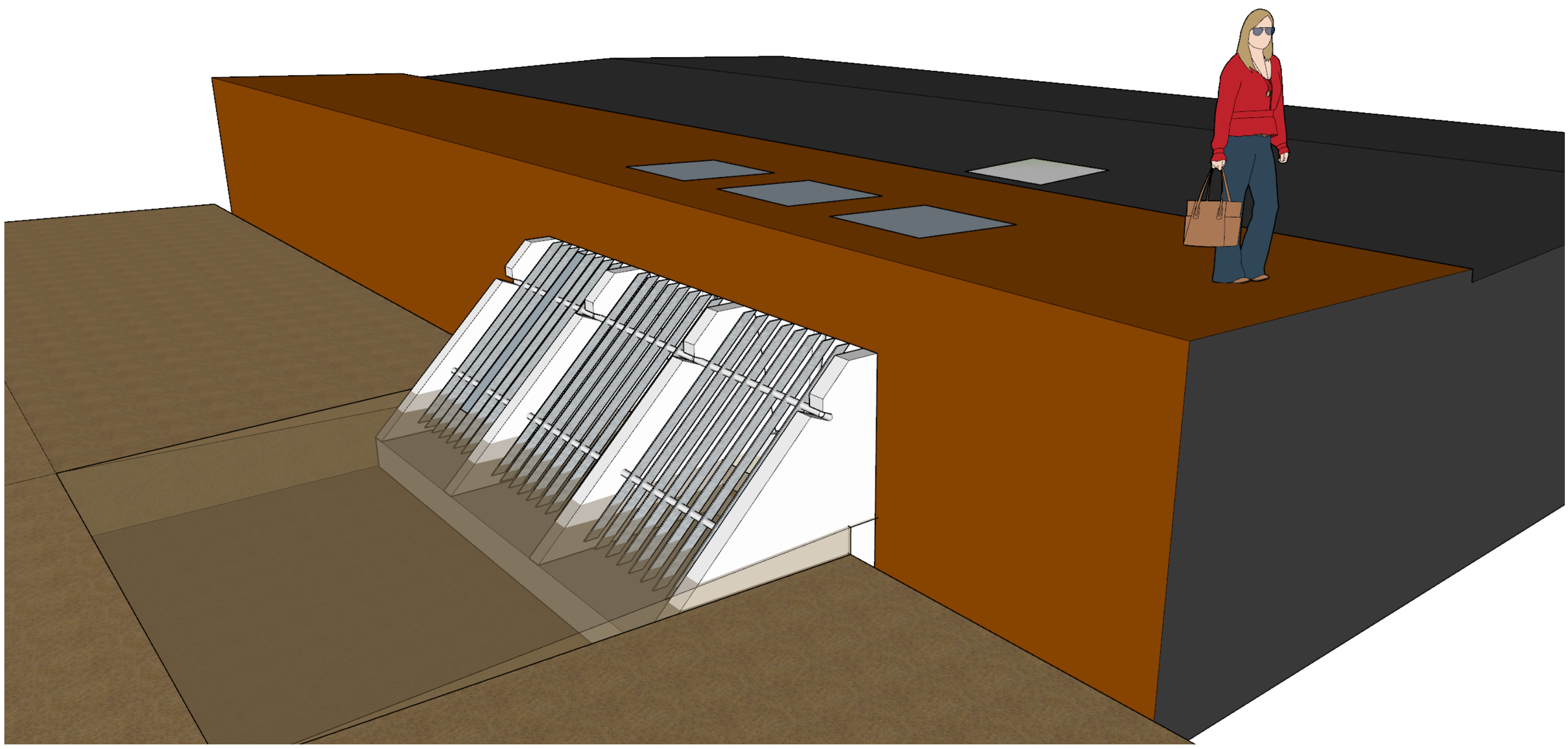
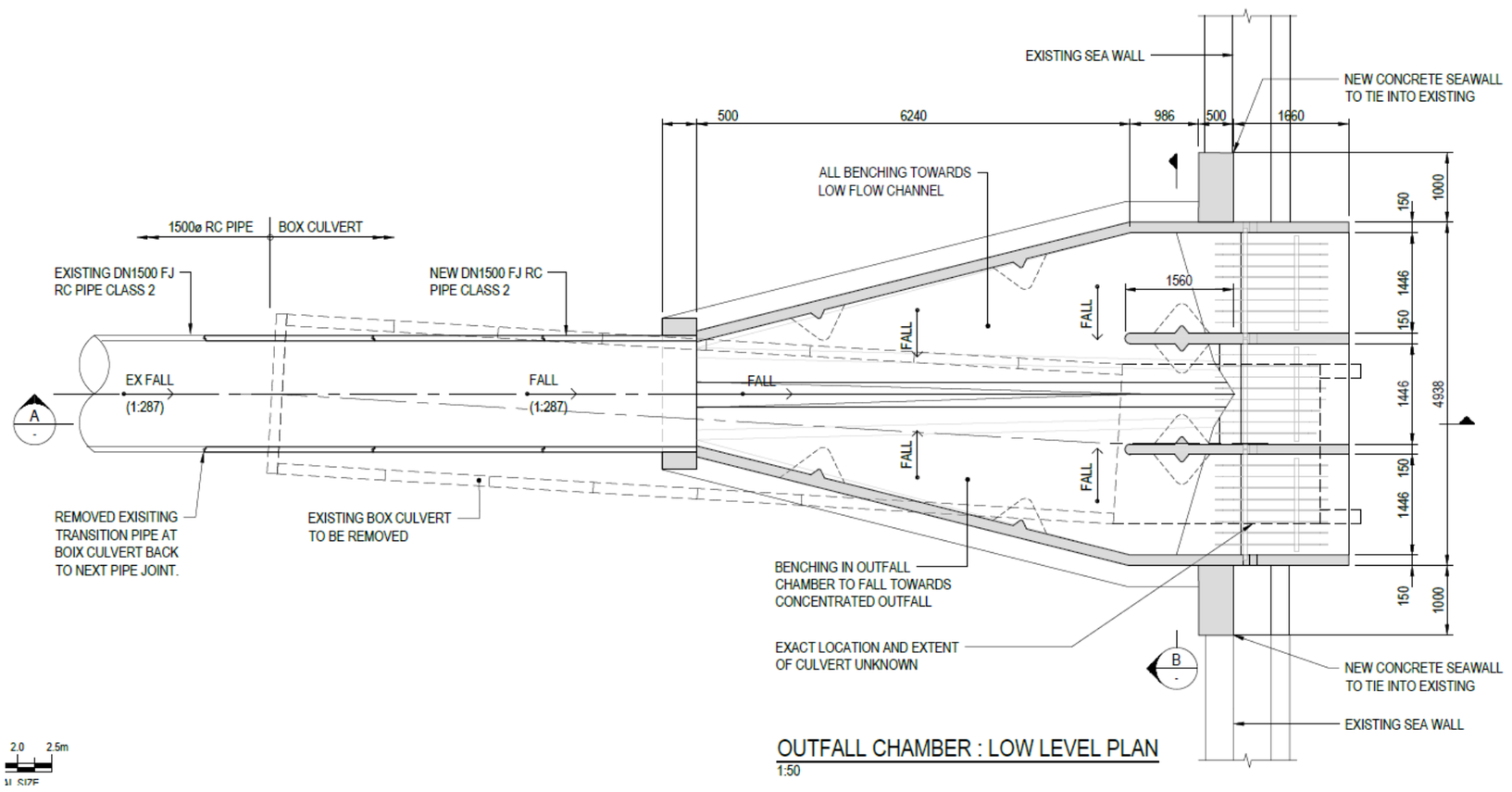
3

Airlie Road outlet improvements concept design

This concept design gives an indication of improvements to the Airlie Road culvert outlet to the sea. The final design may differ as work is continuing to ensure the design will cope with coastal conditions and sand levels.





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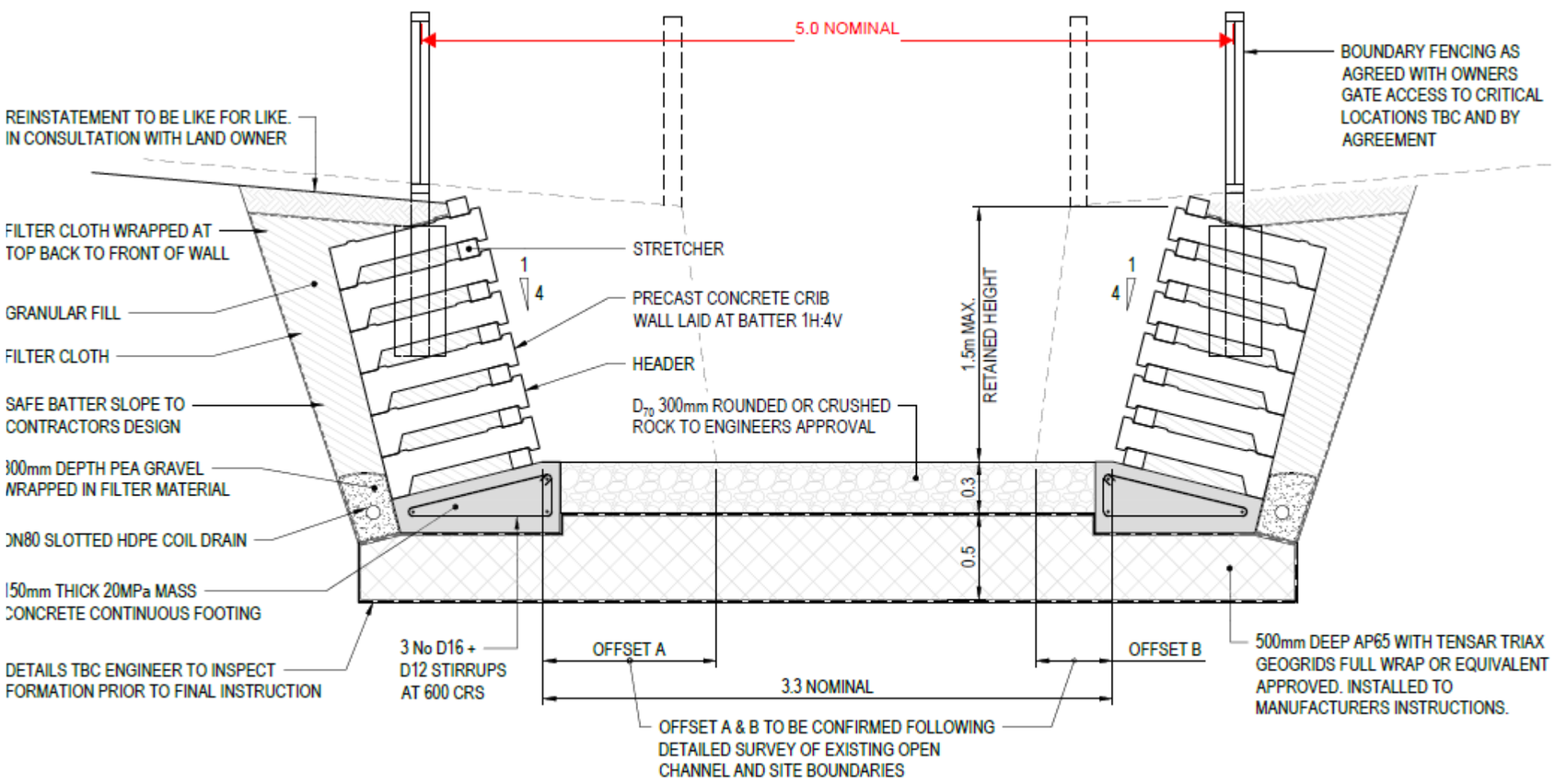
4

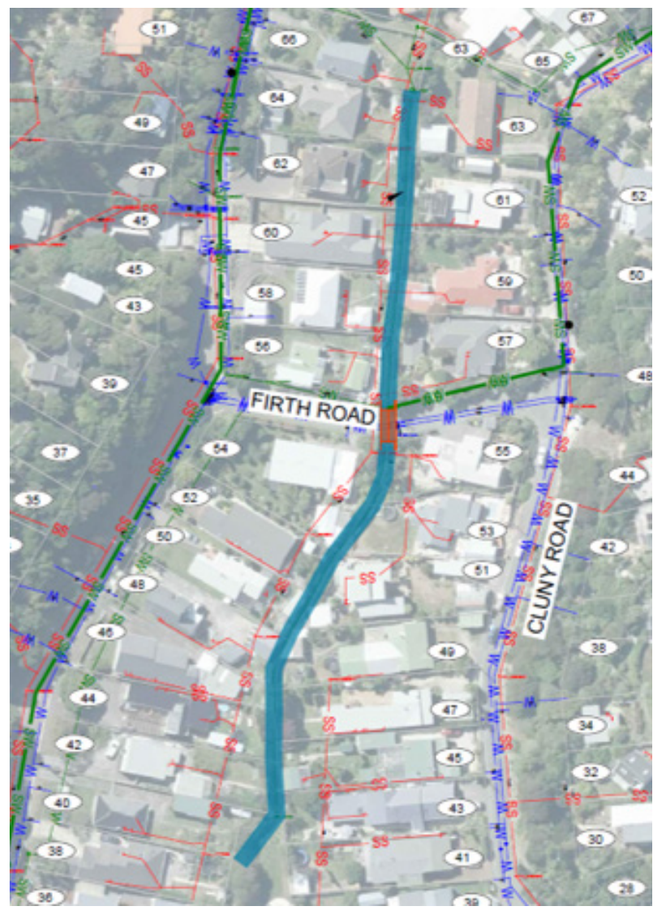
Karehana Stream improvements concept design

This concept design gives an indication of a cross-section of the proposed upgrade to the stream. This is based on a concrete crib wall, but we are continuing to explore a timber alternative, so the final design may differ.

More detailed plans will be developed in discussion with neighbouring property owners.



OPEN CHANNEL WIDENING : CONSTRUCTION DETAILS
1:25



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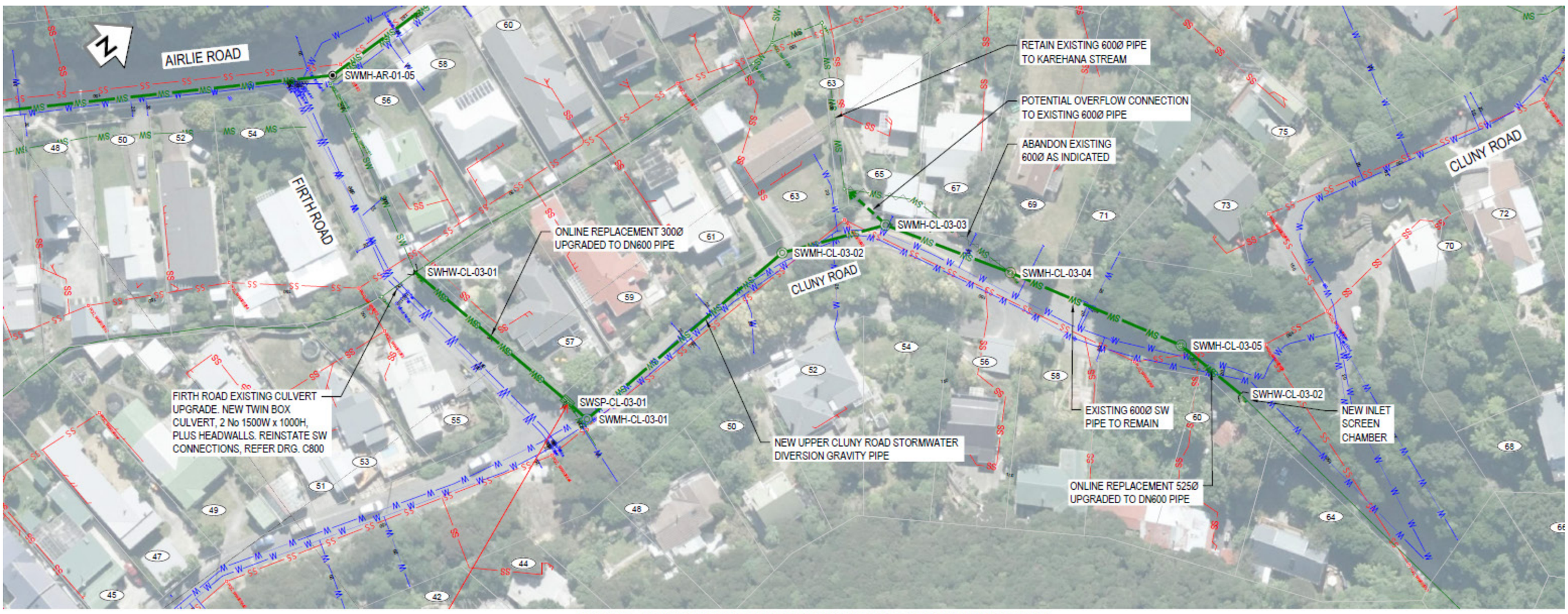
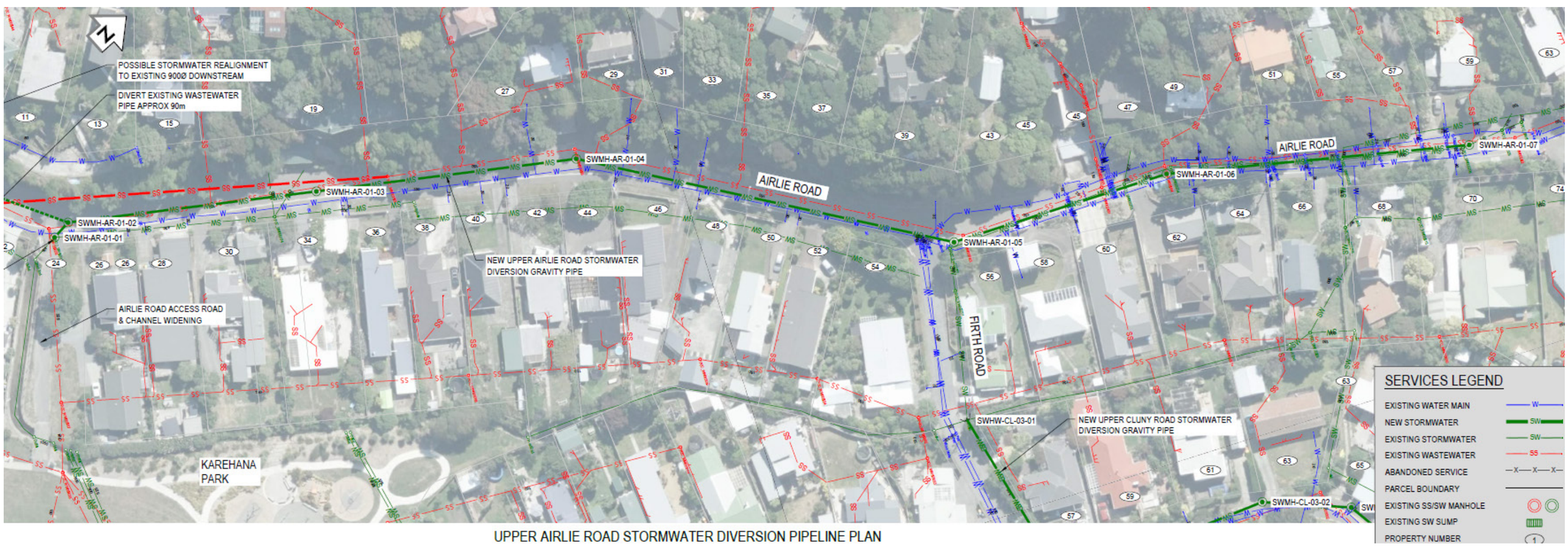
Stormwater diversions concept design

These concept designs give an indication of new pipes and inlets that will increase capacity and capture runoff from hillsides. The final designs may differ in some respects.



UPPER CLUNY ROAD STORMWATER DIVERSION PIPELINE PLAN
1:500



UPPER AIRLIE ROAD STORMWATER DIVERSION PIPELINE PLAN

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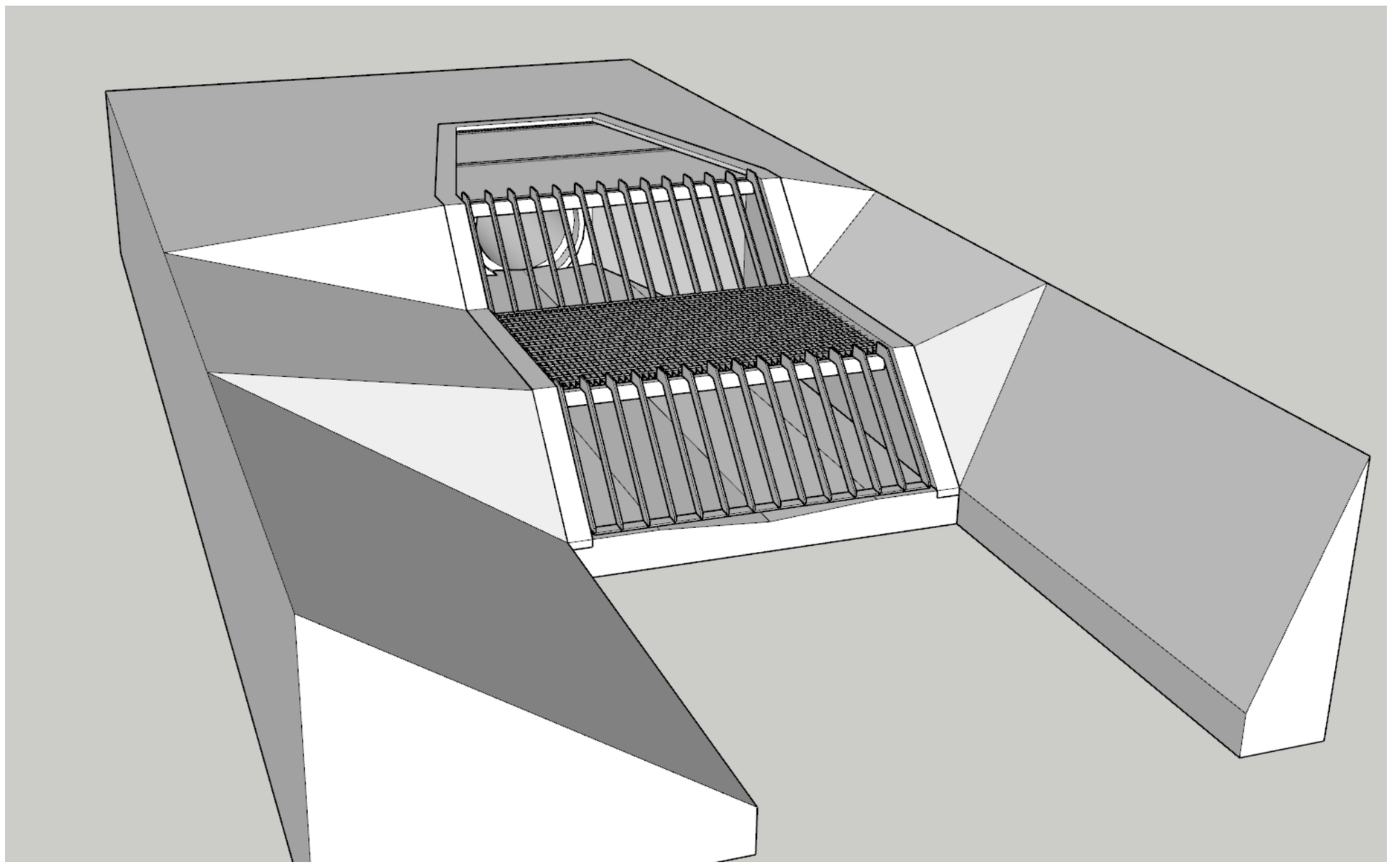
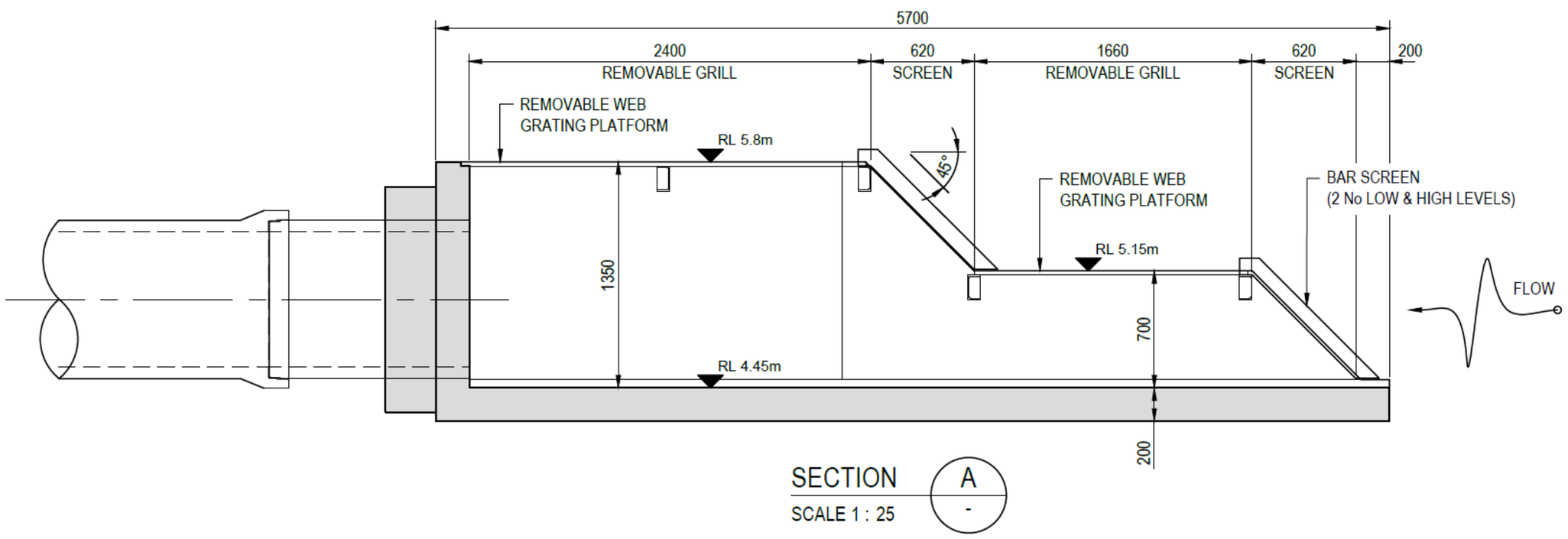
6

Improved inlet protection concept design

This concept design gives an indication of what improved inlets will look like, designed to increase stormwater inflow while holding back debris. The final design may differ in some respects, as the specific location of each inlet is taken into account.





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Plimmerton Flood Response Project

Next Steps for Karehana Bay catchment

29 November 2020 – Flooding event

December 2020 – Flood Action Group formed and meets with Porirua City Council

27 January 2021 – Public meeting with Porirua City Council and Wellington Water

February 2021 – Plimmerton Stormwater Catchment Management and Improvements Project Phase 1: Karehana Park Catchment gets underway

March 2021 – Plimmerton Flood Management and Resilience Working Group established, representing community views in discussion with project team

March to September 2021 – Options considered and shortlisted

September 2021 – Community feedback on options

November 2021 – Porirua City Council agrees to $17.9m investment in infrastructure to reduce flooding risk in Karehana

January 2022 – Discussions with residents on initial concepts

15 June 2022 – Community update

June to July 2022 – Surveying around Karehana Stream and other parts of the catchment

June 2022 into 2023 – Design, further investigations as required, and consenting processes

Autumn 2023 – Target date for first stage of construction to begin, subject to all necessary consents and approvals being obtained

For more information go to **poriruacity.govt.nz/your-council/city-projects** or **wellingtonwater.co.nz/plimmerton-stormwater**

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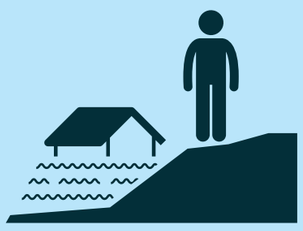
Catchment challenges

There are many factors that are contributing to flooding in the Karehana Park Catchment that we are considering as we assess the long-term options to reduce flooding and help keep people safe and healthy.



Historical development of the catchment

- Burying of streams and blocking of overland flow paths. These are paths that rainwater follows during large storm events
- Homes built on overland flow paths
- No kerbs and channels meaning stormwater flows overland
- Development within the low-lying bowl topography surrounding the park

Climate change

- Sea levels are expected to rise by 1 metre over 100 years, putting more houses at risk
- Increased frequency of flooding from rain with higher intensity

Catchment challenges

Geology

- Highly erodible and loose soils
- Mobile debris and sand, gravel and rock
- Revegetated upper catchment but no undergrowth
- Unstable slopes and landslips
- Sand and gravel movement affecting stormwater outlets at coastline

Stormwater Network

- Limited capacity of the stormwater piped system
- Restricted outlets prone to blockage from beach sand
- Constraints and barriers on the natural floodplain
- Intakes vulnerable to blockage with debris and rocks
- Limited capacity of the stream channels

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