

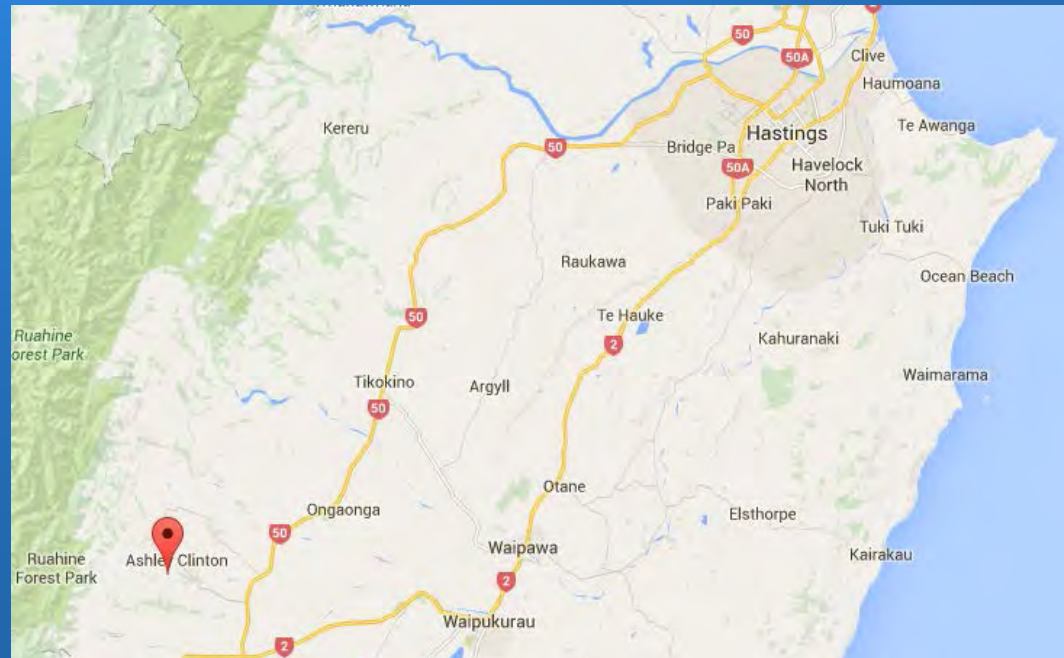
# Managing Future Demands

## Michael Kemsley- GHD Wilson Cutting Road Reinstatement - Not Just a Low Volume Road



## Background:

- Central Hawke's Bay District Council (CHBDC) has a network of over 1200km, approximately 2/3 is sealed.
- Rating base of approximately 6,000-7,000 residents, population is 12,900
- Site is approximately 26 km west of Waipukurau



## Background:

- Wilson Cutting Road carries 29 vpd, (latest estimate) @ Northern road end,
- Generally single lane access with tight geometry
- A routine bridge inspection undertaken in March 2014 discovered a large undercut approximately 15m long, extending from bridge abutment, its approximately 6m to the stream
- Client notified, minor remedial works, with road remaining open
- Drop out quickly worsened resulting in road closure



Initial slip:



Road Remained open

Further failures:

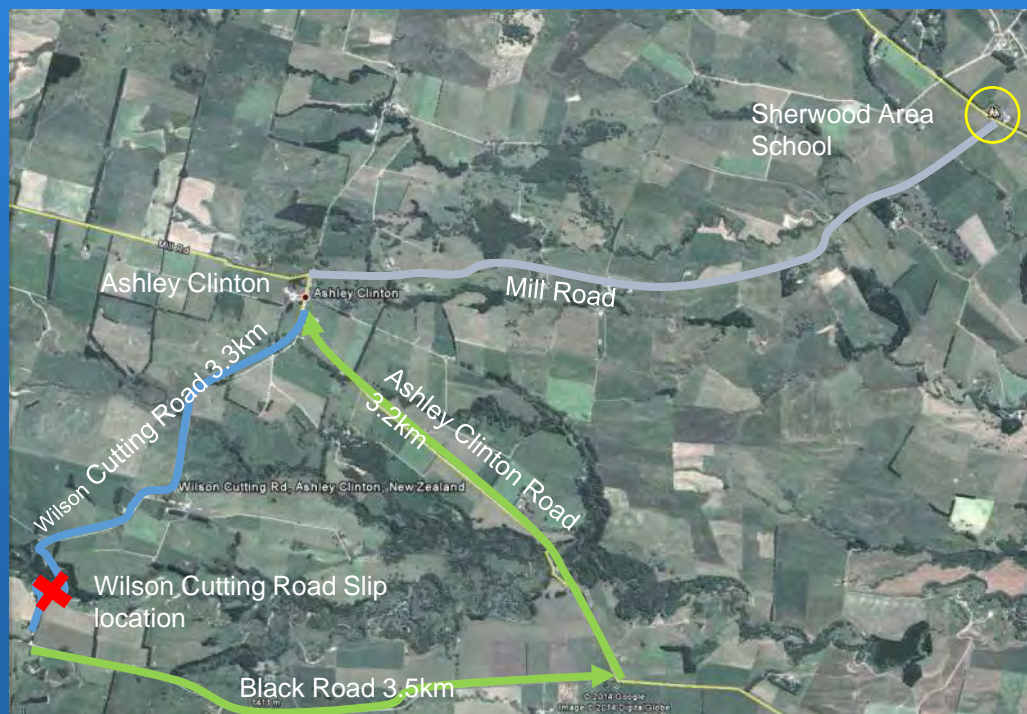


Road closed



## Location:

- Ashley Clinton –Volunteer Fire Brigade,
- Sherwood Area Local school
- Black Road is a dead end
- Reasonable alternative route, approximately 3.4km longer



## The Problem:

- The road linked two halves of a family farm.
- It linked the volunteer fire station with the responders
- Tight alignment prevents large vehicles from U-turning, including maintenance plant.
- Initial estimate of works was deemed uneconomic by NZTA.



## Considered Options:

1. Formally closing the road
    - Consultation required, long process anticipated with plenty of opposition
  2. Provide pedestrian access only,
    - Looses road function, pedestrian only access in worthless in rural areas
  3. Reinstate the road
    - High cost, potentially 100% funded by CHBDC
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- CHBDC Councillors elected to undertake further work with regard to option 3.



What did we investigate:

Establishing fundability:

- Investigated the impact on land value of severance and access loss
- Investigated the dis-benefits of road closure
- Roughly quantified costs associated with delayed emergency service responses



Establishing construction practicalities and costs:

- Ground Investigations using excavator mounted auger
- Survey
- Identify specialist local contractor to work along side





- The results:
- Established fundability with a budget of \$232,000.
  - Delays \$179,000 (40yr life TTC and VOC)
  - Loss of land value \$100,000
  - Increased costs for emergency responses \$83,000
- Estimated costs of approximately \$235,000.
  - Column drains on upslope side
  - Mechanically anchored sheet pile wall
  - Ongoing monitoring for additional toe scour
    - design relies on toe support, additional row of anchors installed if required in future.



- The end result



- Why was this a success:
  - Client, consultant, and contractor collaborated to find a solution that worked with NZTA a willing participant
  - Client worked with the community to determine what was important
  - Demonstrated CHBDC are at arms length to the community
  - A problem that deserved to be solved, and
  - Perfect example of the positive impact on the users of the work of Engineers and our clients



## Before and After

