

Hauraki District Growth Strategy 2050

Waihi – Natural Hazard Assessment

Proposed Growth's areas in Waihi

- Residential (Waitete Road, Bradford Street, Wharry Road, A&P Showgrounds)
- Industrial (Baxter Road, Ford Road)

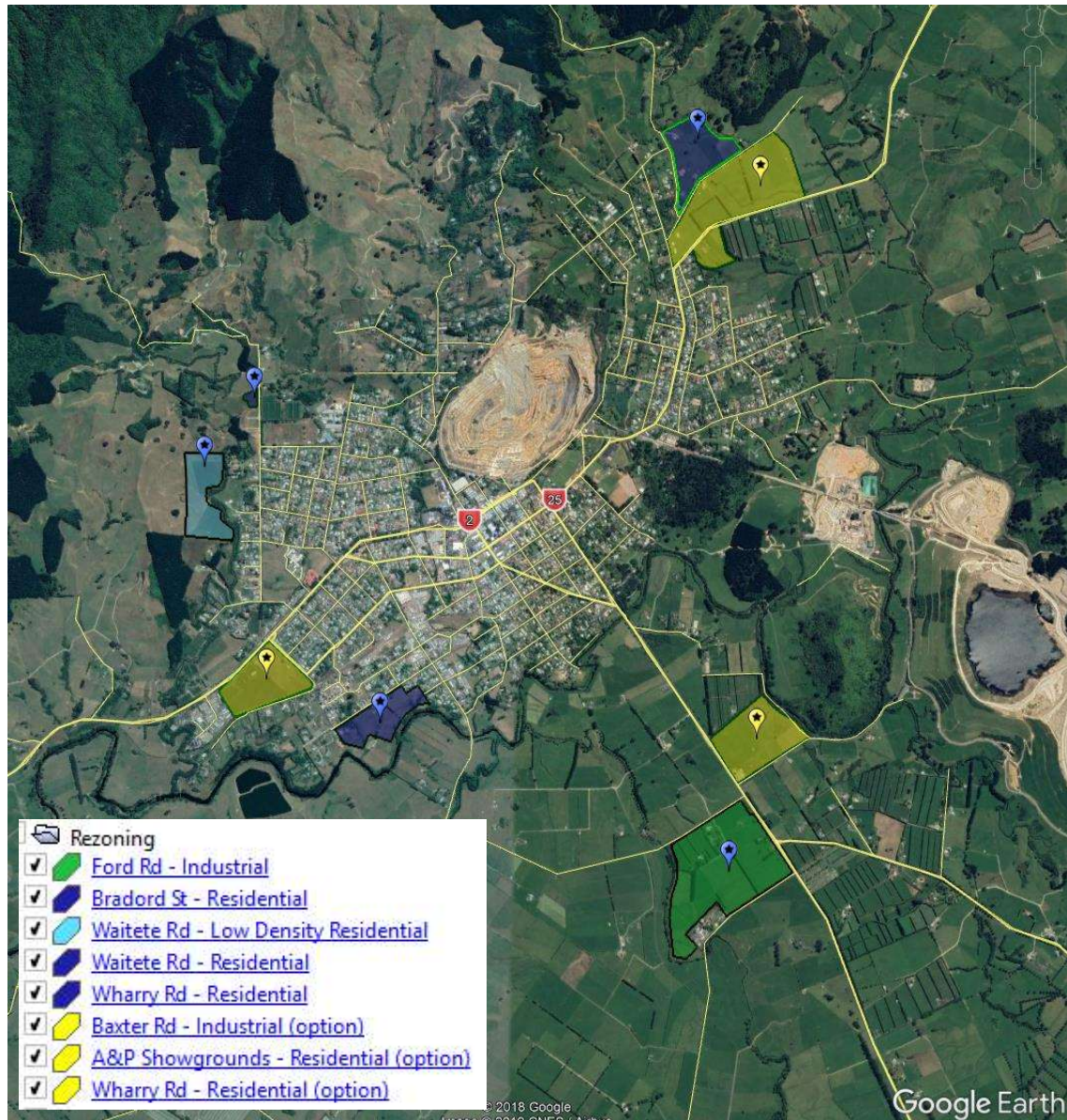


Figure: Map of the Growth's areas in Waihi (src: HDC)

- Blue icon: First choice
- Yellow icon: Second choice

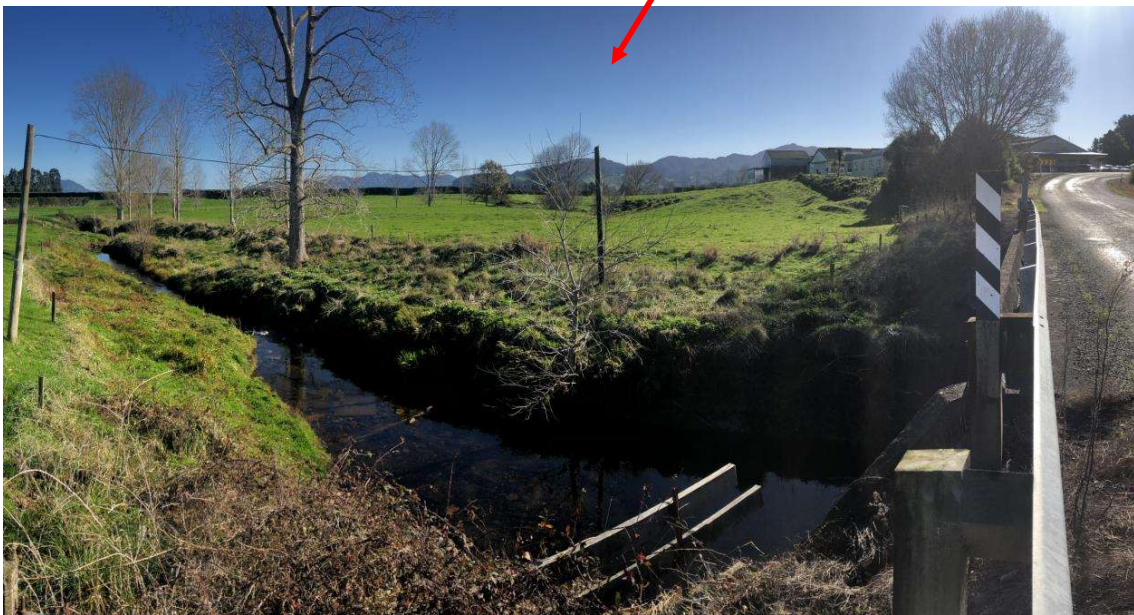
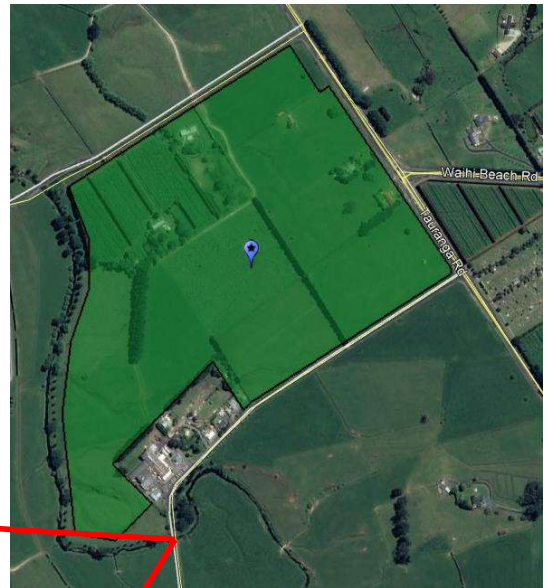
Preliminary Assessment completed by: Phil Mourot (Senior Regional Hazards Adviser; Regional Hazards and Environmental Compliance; Waikato Regional Council) following site visits undertaken on 18 June 2019.

Additional information regarding liquefaction subsequently commissioned from Tonkin + Taylor (see Appendix H).

Industrial – Ford Road



Stream at the western border of the area



Stream at the western border of the area

Characteristics of the area:

- The area is almost flat in the North East and is relatively gently sloping down toward the western border along the stream
- The area is generally grassed and relatively free from erosion features

- According to WRC database, this part of the stream is not especially flood-prone. Also, the topography of the true right bank of the stream will prevent any flood from spreading toward the East.

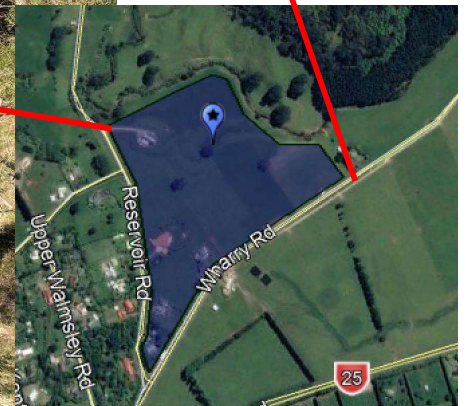
Recommendations:

- **This area does not need further investigation.**
- The landslide hazard assessment will consist of slope and geology mapping. WRC and HDC do not hold any historical events in this area. GNS Science database doesn't show any too.
- According to the size of the stream and without historical record in this area, there is no need for a flood hazard assessment. Besides, further checks of any past floods have to be carried out to confirm the low risk of flooding in this area.

Residential – Wharry Road



View of the growth's area along Wharry Road.



View of the stream along the northern border of the Wharry Road growth's area

Characteristics of the area:

- The area is generally flat.
- The stream borders the North of the area. The stream banks are steep, and the channel bed is about 30 m deep. Theoretically, high flows will be confined within the stream channel. However, surface ponding will occur in flat areas.
- We observed old features of slips on the stream banks, which can be explained by the steepness of the stream banks.
- The stream banks feature high vegetation, including small shrubs and willow trees.

Recommendations:

- We suggest defining a setback distance from the stream to avoid that the building earthwork could affect the stream banks stability.
- As part of the flood management procedure, the waterway must be kept clear from clogging with logs and debris.
- Therefore, **this area doesn't need further investigation.**
- If an appropriate setback distance is defined from the stream, there is no need for a landslide hazard assessment. According to WRC, HDC, and GNS Science database, there are no historical landslide events in this area.

Residential – Bradford Street



The growth's area viewed from Bradford Street



Advertising in front of the growth's area



Characteristics of the area:

- The area comprises slight hills and smoothed gullies, which are slopping down South toward the Ohinemuri River.
- Regional hazard mapping along the Ohinemuri River does not overlap with the proposed development areas. However, from the WRC regional hazard flood database (Ref. H21), the 1966 flood photos showed that the Ohinemuri River just overflowed its banks, it did not show any inundation of houses. Only the 1966 flood has been mapped.
- The area is generally grassed and relatively free from erosion features.

Recommendations:

- **This area requires further investigation**, as we could not see the riverbed from the road during the site visit in June 2019.
- However, the defined area does not spread to the river. A setback distance can be set to lower the risk of flooding.
- Ohinemuri is the main river in the area. I suggest estimating the 50 and 100-year return period flow by a hydraulic model.

Low density residential - Waitete Road



The red line shows the proposed growth's area.

Characteristics of the area:

- The area will be challenging to build due to the steep terrain.
- The area is generally grassed and features slips and erosion features.

Recommendations:

- **This area requires further investigation.**
- In accordance with the building act regulation, this area requires specific-site investigations (Geotechnical investigations)



Residential – Waitete Road



The proposed residential area is located on the left of the fence



View of the right side of the fence outside the proposed area.

Characteristics of the area:

- The area is generally flat and is relatively gently sloping toward the South.
- The area is generally grassed and relatively free from erosion features.



Recommendations:

- This area doesn't need further investigation.