# Onaero Beach Walk – 15 February 2018

## KEY COASTAL FACTS

Coastal cliffs at Onaero are made up of soft, uplifted marine sediments. Waves eat into the base of the cliffs and cause the cliffs above to become unstable and fall into the sea.

Long-term erosion rates at Onaero have ranged between 0.2m and 0.4m per year – higher at the western headland. These rates can be temporarily higher at weak points in gullies. The rates are temporarily lower behind coastal protection works while those works remain effective.

When erosion of the cliff toe causes it to become over-steepened, the cliff above slumps to a more stable angle causing land at the top to be lost. Once waves remove the slip material, erosion of the toe restarts. This slumping process continues above coastal protection works until a stable angle is reached.

## Coastal Erosion

The coastal erosion hazard area includes future erosion of the cliff toe and land areas above that may become unstable.
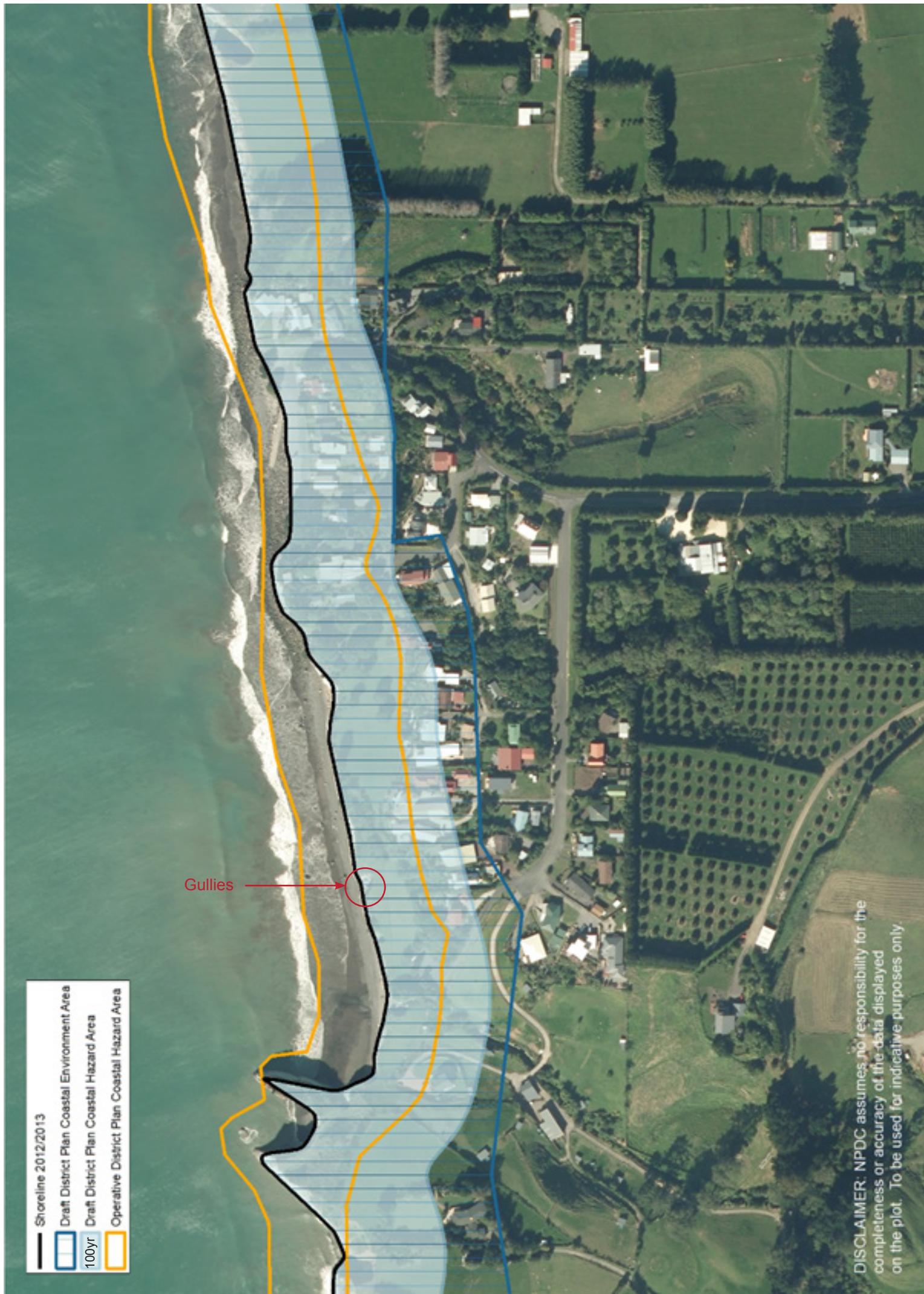
The yellow lines show the coastal hazard area, which was calculated in 1988 and is currently in the Operative District Plan. The seaward extent of the yellow lines shows the distance the coast has eroded since this time.

The blue-shaded zone shows the area that may be affected by erosion and land instability in 100 years if erosion continues at current rates. This zone ignores coastal protection works as they may not be effective over 100 years.

Erosion rates may increase with future climate change and sea level rise. This has not currently been incorporated into the blue-shaded coastal hazard area but is being investigated.

Coastal Environment Area is the area which is subject to coastal influences (landscape, ecology, hazard) and where you can see or smell the sea but is generally larger than just the coastal hazard zone.

Gullies

**Legend:**
- Shoreline 2012/2013
- Draft District Plan Coastal Environment Area
- 100yr Draft District Plan Coastal Hazard Area
- Operative District Plan Coastal Hazard Area

DISCLAIMER: NPDC assumes no responsibility for the completeness or accuracy of the data displayed on the plot. To be used for indicative purposes only.