

# Residual risk zones for coastal hazards - addition to Section 42A staff report on Natural Hazards topic

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TO Proposed District Plan Hearings Panel  
 FROM Andrew Wharton - Senior Policy Planner  
 DATE 19 November 2014  
 SUBJECT **Residual risk zones for coastal hazards - addition to Section 42A staff report on Natural Hazards topic**

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## 1 Issue

Staff recommendations R 10.3 and R 10.4 involve moving the Current Coastal Erosion Line (CCEL) seaward to recognise the protection provided by a coastal defence. At the Proposed District Plan (Plan) hearing, Waikato Regional Council (WRC) presenters pointed out that Method 13.2.6 of the Regional Policy Statement (RPS) applies to such a change.

## 2 Background

RPS Method 13.2.6 states:

*District plans shall identify residual risk zones and shall control subdivision, use and development within these zones so that residual risk is minimised. In doing so, particular regard shall be had to:*

- a) *the level of service provided by the structural defences;*
- b) *the physical, environmental and financial sustainability of the structural defences over a period of at least 100 years;*
- c) *the impact caused by an overwhelming or a structural failure of protection works; and*
- d) *a reduction in the ability of a community to respond to and recover from a natural hazard event.*

The RPS defines residual risk as the risk associated with existing natural hazard structural defences such as stopbanks and seawalls, including the risk of failure of a defence or of a greater than design event occurring.

The Section 42A staff report on natural hazards recommends CCEL seaward movement in two locations: Cooks Beach and South Buffalo Beach (R 10.3 and R 10.4), because of their coastal defences.

The application of a 'residual risk zone' in the Plan behind a coastal defence is a RPS-directed consequence of relocating the CCEL seaward because of that coastal defence. Because of this, Plan amendments to incorporate a residual risk zone are within the scope of submission points 251.1, 257.1, 259.1 and 604.10.

## 3 Discussion

The Plan already identifies and manages residual risk zones for flood defences. It applies where flood waters would be, if not for the stopbanks, culverts and other defences to divert the flood waters. The Plan calls it the 'Defended Area Overlay'. Within this overlay, the floor levels of dwellings and other habitable rooms should be 0.5 m above the hypothetical flood level if the flood defences failed.

The residual risks from the rock walls at Cooks Beach and South Buffalo Beach are erosion behind the wall and potential ponding during a rainstorm combined with a high tide and high waves. As discussed in paragraph 36 of the staff report, subdivision use and development controls ponding for the Cooks Beach Wall Area in Section 34.9. The risk of wall failure in a storm and erosion behind the wall is addressed by:

- The 7 to 20 m distance between the new CCEs and the sea walls, which allows for emergency works and reconstruction or relocation of the wall.
- The FCPL limits subdivision and more than one house per lot to locations that do not increase future risk or cost of managing coastal erosion.
- In the Section 42A staff report I also recommend that new dwellings in the FCPL are designed to be relocatable in the future.

These Plan provisions address effects from the sea walls' level of service, sustainability over 100 years, structural failure, and options for relocation if the community can no longer respond or recover from the coastal erosion events. The only thing that remains is to identify the residual risk zone on Planning Maps. In these cases, the residual risk zone is between the sea wall and the location of the original CCEL as notified in the Proposed Plan.

Ideally, the residual risk zone would be shown on the Plan's overlay maps, alongside the related CCEL and FCPL. However the overlay map for Cooks Beach coastline are getting crowded, with seven different overlays: amenity landscape, natural character, historic heritage item 216, beachfront yard, CCEL, FCPL and coastal environment line. Some of these overlay locations and extents may be changed (e.g. coastal environment, amenity landscape, historic heritage item), and staff believe the beachfront yard is best shown on the zone map as it is associated with zone rules. Buffalo Beach South's overlay maps are less crowded with only three overlays: FCPL, CCEL and coastal environment line.

At the end of the hearings, if Overlay Map 18I is less cluttered, the two new residual risk areas can be shown on the existing overlay maps. Otherwise they may need to be shown on a separate Coastal Erosion Overlay Map.

## 4 Recommendation

Show the Coastal Erosion Residual Risk Area on the Planning Overlay Maps between the former CCEL (as notified) and the Cooks Beach and Buffalo Beach South coastal defences as shown on the attached maps.

Replace the definitions of Residual Risk in the Plan with the definitions in the RPS as follows:

~~**Residual Risk** means the level of risk that remains after risk avoidance or mitigation measures have been implemented. For flooding, also refer to 'Natural Hazard Terms'.~~

~~**Residual Risk** also refer to the main definition. In relation to flooding, residual risk means the remaining level of flood hazard risk after risk mitigation measures have been implemented. Risk remains from flood events larger than the design flood, channel blockages, debris flows, channel re-alignment, bank collapse, or modifications to catchment land use.~~

**Residual Risk** has the same meaning as in the Waikato Regional Policy Statement.

*"Residual risk – the risk associated with existing natural hazard structural defences such as stopbanks and seawalls, including the risk of failure of a defence or of a greater than design event occurring."*

**Residual Risk Area** has the same meaning as Residual Risk Zone in the Waikato Regional Policy Statement.

"Residual risk zone – an area subject to residual risk – that is the area that would be at risk from a natural hazard event but for a structural defence."

## **5 Suggested Resolution(s)**

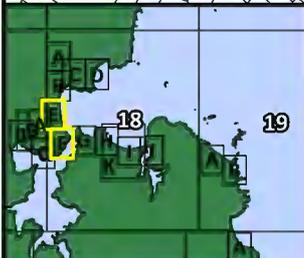
That the District Plan Hearings Panel:

1. Receives the report.
2. Amends the Plan as set out in the recommendation above and attached maps.



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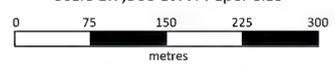


MAP 18E, 18F OVERLAYS

# WHITIANGA

PROPOSED DISTRICT PLAN - December 2013

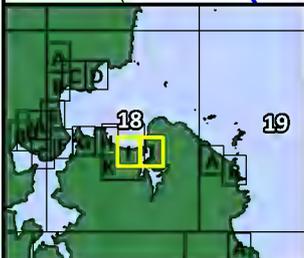
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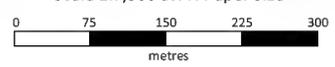
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MAP 18I, 18J OVERLAYS  
**COOKS BEACH**  
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