Waikato Regional Policy Statement – Implementation Practice note on Natural Hazards

Date	**20 March 2019**
Purpose	To help interpret and assist in the implementation of The Waikato Regional Policy Statement Chapter 14 Natural Hazards, and related aspects of Chapter 4 Integrated Management and Chapter 6.2 Development in the Coastal Environment.
Legal Status	This practice note has no legal weight in the interpretation of the WRPS.
Review Date	**February 2020**

Background

Waikato Regional Council's Regional Policy Statement (WRPS) was made operative in May 2016. The WRPS provides an overview of the resource management issues of the region, and the policies and methods to achieve integrated management of natural and physical resources.

Note: Currently WRPS method 4.1.13 (b) and (c), do not match the latest guidance provided by MfE in their publication "Coastal Hazards and Climate Change: Guidance for Local Government. WRC recommends that Local authorities adopt the allowances for sea level rise and climate change set in the 2017 MfE guidance document in preference to the values set in this WRPS method.

RMA

Section 6 of the RMA requires territorial authorities and regional councils to recognise and provide for the management of significant risks from natural hazards as a matter of national importance. Section 7 RMA requires territorial authorities and regional Councils to have particular regard to the effects of climate change.

Section 30 gives regional councils the function of controlling the use of land, the control of the effects of the use, development or protection of land in the coastal marine area and the control of the beds of water bodies for avoiding or mitigation natural hazards.

Section 31 gives territorial authorities the function of the control of the actual or potential effects of the use, development or protection of land for the avoidance or mitigation of natural hazards.

Section 62 requires the Regional Policy Statement to state the local authority responsible for the control of the use of land to avoid or mitigate natural hazards or groups of natural hazards.

Section 106 gives consenting authorities the ability to refuse or put conditions on a subdivision consent if there is a significant risk from natural hazards.

New Zealand Coastal Policy statement 2010 (NZCPS)

The overarching goal of the NZCPS Coastal Hazard objective and policies is to manage coastal hazard risks so that the likelihood of them causing social, cultural, environmental and economic harm is not increased. Objective 5 of the NZCPS is that coastal hazards/climate change are managed by locating new development away from risk areas, consider managed retreat for existing development and protect or restore natural defences. Policies include:

- to adopt a precautionary approach to use and management of coastal resources potentially vulnerable to effects of climate change to avoid harm to communities.
- to identify areas potentially at risk over the next 100 years.
- to avoid increasing risk of harm, avoid redevelopment that increases risk, encourage redevelopment that reduces risk (adaptive management).
- to discourage hard protection structures while acknowledging they may be the only practicable means to protect important infrastructure although at a social and environmental cost.

- to promote long term risk reduction strategies including removal/relocation.
- to promote the use of natural defences against coastal hazards.

Waikato Regional Policy Statement 2016 (WRPS)

The WRPS objective 3.24 is to manage the effects on communities and the environment by increasing community resilience, reducing risk and enabling recovery from hazard events. Associated policies include:

- that coastal development occurs in a way that provides for setbacks, allows for the potential of sea level rise including landward migration of coastal habitats, and avoids increasing risk in coastal area.
- that a natural hazard risk management approach be taken that ensures risk does not exceed acceptable, prefers use of natural features over manmade structures for defence and use best available information/practice.
- that development has regard to development principles including that it should be appropriate with respect to projected climate change effects and be designed to allow adaptation to these changes.

Methods include:

- requiring that new development along the coast be set back enough to avoid natural hazards.
- Regional plans identify circumstances where existing development should be relocated and include provisions for relocation.
- Developing additional primary hazard zone provisions and controls on development.
- WRC to provide a Regional Hazards forum, and store all natural hazard information.

NB In this respect:

  - The Regional Hazards Forum has been underway since 2012.
  - WRC has initiated a Natural Hazards meta-database that aims to incorporate information held at WRC and also at TA's.
  - An online Natural Hazards Portal is being built to provide all relevant and available natural hazard information. The Natural Hazards metadata base will be added to the portal over time.

Ministry for the Environment (MfE) Guidelines 2017

The 2017 MfE Coastal Hazards and Climate Change guidance for Local Government differs from previous guidance in that it attempts to deal with uncertainty by promoting a dynamic adaptive pathways planning approach. This approach involves the community in setting trigger points where a change in management direction as a response to hazards and risk is required. WRPS references to long term community strategies are such an adaptive pathways planning approach.

Recommended Overall Approach to Natural Hazard Planning in the Waikato Region

1. Hazard Information collection – WRC and territorial authorities to continue to collect required hazard data, focussing priority on communities at comparatively higher risk within the Region or District. WRPS 13.2.2 tasks District Councils with this. WRC to provide storage of all hazard data on the WRC database accessible to TA's. WRC to continue to organise Regional Hazards forum meetings.
2. Risk Assessment Methodology- WRC, in consultation with the territorial authorities, will compile a consistent methodology to be applied across the Region for assessing risk (including residual risk) at a regional and district planning scale. It is anticipated this methodology will be progressively implemented based on risk priority.
3. RMA Sections 6 and 106 implications for current resource consent applications – until the risk assessment methodology has been completed, TA's will need to adopt a risk management approach that considers the information available and gives effect to WRPS and NPS objectives and policies. Where information is uncertain, in accordance with RMA, adopting the precautionary approach will be required.
4. Policy Framework development through Regional Plan Review process – WRC will develop objectives, policies and rules as part of the plan review process. Part of the Section 32 analysis will include investigating the potential for transfer of the regional function relating to the management tool of controlling land uses within Primary Hazard Zones to territorial authorities (the ability to extinguish existing use rights).

5. Long Term community plan development (WRPS Method 13.1.3) – WRC and territorial authorities to collaborate in developing adaptive management strategies with potentially affected communities focussing priority on communities at comparatively higher risk within the Region or District.

High Risk Flood Zones

WRPS: Policy - 4.1, 13.2 Method - 13.2.1, 13.2.2, 13.2.5, 13.2.6, 13.2.8, 4.1.13

Recommended Practice

High Risk Flood zones are defined in WRPS where the depth of flood water exceeds 1m, speed exceeds 2m/s or depth multiplied by speed exceeds one for an event that is more frequent than a 1% AEP. High Risk Flood zones also need to provide for effects of climate change (4.1.13).

To identify High Risk Floods zones, WRC recommends a risk based approach is undertaken due to the practical implications of applying this definition to an entire district. This would require:

- In a small number of areas where 2-dimensional modelling with Climate Change is available, the WRPS definition of a High Risk Flood Zone can be literally applied.
- Comprehensive modelling (using the WRPS definition of a High Risk Flood Zone and incorporating climate change) should be undertaken for areas at higher risk, such as existing development areas and future development areas where 2-dimensional modelling with Climate Change is not available.
- For areas outside of the 2-dimensional modelling, other guidance (such as 1D extent mapping, broad-scale hazard zones, information from previous events) should be used to identify areas where any development or zoning changes would require a comprehensive assessment of flood hazard and subsequent risk. The flood hazard susceptible to these areas would be used as a 'red flag' that would require any application for development resource consent/rezoning to provide comprehensive flood and other hazard assessment. Sea level rise needs to be incorporated into flood modelling for tidally influenced rivers and climate change scenario impact on rainfall frequencies.

High Risk Coastal Hazards

WRPS: Policy - 6.2 Method - 6.2.3, 6.2.4, 13.2.2, 13.2.5, 13.2.6, 4.1.13

Recommended practice

The WRPS does not define what 'areas at risk of coastal hazards' means. Climate Change and sea level rise must both be considered to current best practice levels. *Note: WRC can assist territorial authorities in helping to define what may be an area at risk from coastal hazards. WRC's ability to assist on this method is dependent on resourcing and staff capacity in the Regional Hazards and Coastal Science teams, and will need to be assessed on a case by case basis*.

- Territorial authorities should use updated 2017 MfE guidance figures for sea level rise and climate change.
- Use the Coastal Inundation Tool (http://coastalinundation.waikatoregion.govt.nz/) as a rough guide to indicate areas potentially affected.
- Undertake more site specific hazard analysis and assessment with communities prioritised based on the degree of risk indicated by risk assessment.
    - MfE coastal hazard guidelines (2017) recommend that a range of sea level scenarios be considered depending on development type, and a 100 year timeframe. For existing developments the guidelines suggest a minimum of 1m be used for habitable buildings until an adaptive pathways plan is compiled. For new developments the guidelines suggest using a minimum of 1.36m for intensification and that a full dynamic pathways assessment be undertaken before it proceeds. (http://www.mfe.govt.nz/publications/climate-change/coastal-hazards-and-climate-change-guidance-local-government/).

- Determine location and extent of any coastal setback appropriate for development. These lines will potentially need to change as a consequence of sea level rise.

Note: Regional Plan review process is required to identify the circumstances where existing development should be relocated – this needs to be aligned with long term community strategies and will involve consultation.

Residual Risk zones

WRPS: Policy - 13.2, 6.2 Method - 13.2.7, 13.2.8, 4.1.13, 6.2.3, 6.2.4

Recommended practice

'Residual risk zones' must be identified by Territorial Authorities through their district plans, and plans will control subdivision, use and development within these zones so that 'residual risk' is minimised (13.2.7). 'Residual risk' is defined as the risk associated with existing natural hazard structural defences such as stopbanks and seawalls, including the risk of a failure of defence or of a 'greater than design event' occurring. Note that changes in climatic factors and sea level rise will potentially affect the extent of residual risk zones. Identification and mapping of such areas will both inform communities of the benefit the defence structures provide and define an area where additional site specific assessments and controls may be required to assess and manage residual risk.

a) *Identification and mapping – WRPS 13.2.7 'District plans shall identify residual risk zones'*

To identify residual risk zones, district plans should identify the areas that would be potentially affected by a structural failure of a defence. WRC recommends using either a modelled 'pre scheme' assessment and/or other existing assessment (i.e. assessment used to determine a direct benefit rating) to identify areas that benefit from a structural defence.

Some uncertainty in identifying residual risk zones is likely, therefore identification and mapping of residual risk zones by Territorial Authorities is recommended to be a collaborative process between the Territorial Authority and WRC Regional Hazard Team.

All areas that benefit from the structural defence (residual risk zone) should be classified as a 'Defended Area' and are to include the designed level of service (an event annual exceedance probability AEP) of the defence structure (i.e., 'Defended Area of a XX% AEP design event of the XX River/Watercourse').

Mapping of the Defended Area can be undertaken using two options:

1. 'As mapped' residual risk area showing the property boundary along with the mapped hazard/defended area.
2. By property, based on the amount of coverage affecting the property.

WRC suggests Option 1, showing the actual benefit area relative to the property, is preferable. However, there may be practical reasons a territorial authority may require the use of Option 2. Removing 'erroneous' data that does not significantly alter the intent of 13.2.7 due to modelling artefacts and/or limitations of the data shall be at the discretion of the territorial authority and WRC.

b) WRPS (13.2.7) Control and minimise risk – 'District plans shall… control subdivision, use and development within these zones so residual risk is minimised, having regard to…

1. *The level of service provided by the structural defences.*
2. *Physical, environmental and financial sustainability of the structural defences over a period of at least 100 years.*

3. *Impact caused by an overwhelming or structural failure of protection works.*
4. *Reduction in the ability of a community to respond to and recover from a natural hazard event.*

Territorial authorities have discretion as to how they choose to control and minimise risk through District Plans. District Plan controls within these identified 'residual risk zones' will be supported by the Natural Hazards Risk Assessment Methodology (when available). This methodology will identify what (new) development in the defended area would require more detailed natural hazard risk assessments, to manage the residual risk as well as risks arising from other hazards.

The intent of the Natural Hazards Risk Assessment Methodology is to only require more detailed risk assessments for development that is likely to have higher risk should the protection structure fail or be overwhelmed. Development that is likely to require a more detailed natural hazard risk assessment may include:

a) Any development within 20m of a structural defence
b) Residential, commercial or Industrial subdivision within an existing or new zone.
c) Aged care or other sensitive uses.
d) Commercial and industrial uses involving hazardous materials.
e) Lifeline utilities.
f) Emergency service facilities including police, hospital and fire service.

c) *Residual Risk, Long Term Community Strategies (WRPS 13.1.3) and Low probability events (13.3)*

Long term community strategies (WRPS Method 13.1.3) need to consider and address the implications of allowing development in residual risk zones.

Consideration of management response to natural hazard risk including residual risk and risk associated with low probability events is to be included in a community strategy. These strategies will be developed in collaboration with stakeholders such as CDEM (including Emergency Services), and in residual risk zones/defended areas will need to address:

- Evacuation plans (key component to managing residual risk)
- Residual Risk change due to potential change in Level of Service a structural defence provides in the future.

Long Term Community Strategies

WRPS: Policy - 13.1, 6.2 Method - 13.1.3, 6.2.4

Recommended practice

Method 13.1.3 requires WRC to "*collaborate with territorial authorities, tangata whenua and other agencies to undertake assessments of coastal and other communities at risk or potentially at risk from natural hazards, and develop long-term strategies for these communities. The strategies will, as a minimum:*

a) Include recommendations for any hazard zones that should be applied, including primary hazard zones
b) Identify risks to the community and existing infrastructure from natural hazards
c) Identify options for reducing risks to the community to an acceptable level and the relative benefits and costs of these options, including taking into account any effects on:
   i. Public access.
   ii. Amenity values.

iii. Natural character (including natural physical processes, indigenous biodiversity, landscape and water quality)".

In practice these strategies will also need to cover emergency response requirements under CDEM Act, and reflect adaptive pathways management – setting trigger levels for when options such as managed retreat become appropriate due to level of risk. Issues and options should also consider possible future changes to level of service for structural defences. The Natural Hazards Risk Assessment Methodology will assist this process.

Primary Hazard Zones

WRPS: Method - 13.1.2, 13.1.3, 13.2.1, 13.2.3, 12.2.8

Recommended practice

Primary Hazard Zones (PHZ) are areas in which the risk to life, property or the environment from natural hazards is intolerable. This could be because the risk is considered real within the short term planning horizon, or because the potential consequences are significant due to the scale or vulnerability of the people, property or the environment at risk. PHZs are expected to be used as a last resort only and where all other risk management regimes have failed.

- Where PHZs are identified, WRC has control of the use of structures in these zones (4.2.10 and 13.2.3).
- District plans are also required to avoid creating demand for new structures in identified PHZs (13.2.1).
- Primary Hazard zones will be progressively identified over time through District risk assessments based on a risk assessment methodology being developed by WRC, and then incorporated into the Regional and District Plans.

Once a policy framework is developed through the Regional Plan Review, a transfer of functions can be investigated to give territorial authorities additional tools to manage land use activities.

WRPS Method 13.1.2 directs the Regional Council to identify Primary Hazard zones in consultation with key stakeholders including affected communities. However this identification requires the outcome of the risk assessment and community strategies to be available, which in turn requires hazard information and a risk assessment methodology to be available. As the information and the risk assessment methodology is not all available, identification of Primary Hazard Zones for Regional Plan purposes will be progressive rather than instantaneous.