

Hazards and Risks – Natural Hazards

Section 32 Report for the Proposed Waitomo District Plan

Section 32 Report – Hazards and Risks – Natural Hazards

SUMMARY OF ISSUES	RESOURCE MANAGEMENT ACT	NATIONAL DIRECTION	REGIONAL POLICY STATEMENTS	IWI MANAGEMENT PLANS CONT...
<p>As part of developing the PDP, Council in partnership with the Waikato Regional Council engaged Tonkin and Taylor to undertake flood modelling for Te Kūiti, Piopio, Waitomo Valley road and the areas around Awakino and Kiritehere. They also undertook a landslide susceptibility assessment for Te Kūiti which refined the existing maps areas and extended mapping to the north of the township. These reports form part of this section 32 and have provided the necessary analysis and data for the current provisions in this chapter and the natural hazard overlays on the planning maps (building platform suitability layers A, B and C and the High Risk Flood Zone).</p> <p>These reports have also increased the accuracy of the natural hazard overlays than provided in the ODP.</p> <p>The natural hazards chapter addresses the following issues:</p> <ul style="list-style-type: none"> • There are significant risks from a wide variety of natural hazards on individuals, communities, businesses, property, and infrastructure. • More severe events are expected as a result of climate change. Planning for this change is an important issue for the District. • Growth in the Waitomo District needs to recognise and respond to the natural hazard risk. • Earthworks can increase the risk from natural hazards. • Council is required by both national and regional direction to manage subdivision and development in areas which might be at risk from natural hazards. The plan needs to adopt a risk-based approach by identifying the location, potential scale and likelihood of a natural hazard event and its possible consequences. • The risk that a natural hazard poses to the community depends on its nature, magnitude and extent, the anticipated frequency of occurrence, and the vulnerability of the environment to the hazard. 	<p>Section 5 To enable people and communities to provide for their social, economic and community wellbeing adverse effects on the environment are required to be managed. Within the context of managing natural hazards, this means identifying and understanding the effects of natural hazards not just for today but also for future generations. This has become increasingly important because of our changing climate. In understanding these effects then community's and the Council are in a better place to sustainably manage adverse effects from natural events.</p> <p>Section 6 RMA The following section 6 matters are relevant to this topic.</p> <p>Section 6(h) Management of significant risks from natural hazards.</p> <p>Councils are now obligated to recognise and provide for the management of the significant risks of natural hazard.</p> <p>Section 7 RMA The following section 7 matters are required to be given particular regard to:</p> <p>Section 7(i) The effects of climate change.</p> <p>This provision has been considered in the development of the PDP.</p> <p>Section 8 RMA Section 8 is relevant to this chapter. Natural Hazards have the potential to impact iwi in a number of ways, including:</p> <ul style="list-style-type: none"> • Loss of areas of cultural value due to erosion, flooding, and other natural hazard processes; and • Loss of cultural practices due to erosion and other natural hazard processes. <p>Section 106 RMA Section 106 pertains to the consideration of subdivision applications and states:</p> <p>(1)A consent authority may refuse to grant a subdivision consent, or may grant a subdivision consent subject to conditions, if it considers that—</p> <p>(a) there is a significant risk from natural hazards;</p> <p>(1A) For the purpose of subsection (1)(a), an assessment of the risk from natural hazards requires a combined assessment of— (a) the likelihood of natural hazards occurring (whether individually or in combination); and (b) the material damage to land in respect of which the consent is sought, other land, or structures that would result from natural hazards; and (c) any likely subsequent use of the land in respect of which the consent is sought that would accelerate, worsen, or result in material damage of the kind referred to in paragraph (b).</p> <p>(2) Conditions under subsection (1) must be— (a) For the purposes of avoiding, remedying, or mitigating the effects referred to in subsection (1); and (b) of a type that could be imposed under section 108.</p>	<p>There are six National Policy Statements (NPSs) currently in place:</p> <ul style="list-style-type: none"> • New Zealand Coastal Policy Statement 2010 • NPS for Electricity Transmission 2008 • NPS for Renewable Electricity Generation 2011 • NPS for Freshwater Management 2020 • NPS on Urban Development 2020 • NPS for Highly Productive Land 2022 <p>It is considered that none of the 6 NPSs listed above are relevant to this Chapter.</p> <p>There are also 8 National Environmental Standards (NESs) currently in place:</p> <ul style="list-style-type: none"> • NES for Air Quality 2004 • NES for Sources of Human Drinking Water 2007 • NES for Telecommunication Facilities 2016 • NES for Electricity Transmission Activities 2009 • NES for Assessing and Managing Contaminants in Soil to Protect Human Health 2011 • NES for Plantation Forestry 2017 • NES for Freshwater 2020 • NES for Storing Tyres Outdoors 2021 <p>The following provisions in the above NESs are relevant to this topic:</p> <p>Section 57 of the NES for Telecommunication Facilities 2016 states that a territorial authority cannot make a natural hazard rule that applies to an identified regulated activity. The regulated activities are identified within Part 4 of the NESTF.</p> <p>Regulation 51 of the NES for Freshwater 2020 permits natural hazard mitigation work around wetlands. However, this regulation only applies to Regional Council functions (as identified under Regulation 5) and does not affect territorial authorities.</p> <p>Relevant case law considered It is considered that there is no case law relevant to the section 32 evaluation for this topic.</p>	<p>The Waikato Regional Policy Statement (WRPS) contains specific objectives and policies for Natural Hazards:</p> <ul style="list-style-type: none"> • Issue 1.2 – Effects of Climate Change acknowledges that climate change is a significant issue for the region due to its effects on wellbeing, including health and safety and that, when addressing this issue, focus should be directed to an increase in the potential for storm damage and weather-related natural hazards; and to the long term risk that sea level rise poses to settlements and infrastructure through coastal erosion and flooding. • Issue 1.4 – Managing the Built Environment acknowledges that development can have either positive or negative impacts on natural and physical resources and the provision for our wellbeing and that focus should be directed to, amongst other matters, the increasing potential for natural hazards. • The WRPS provides policy direction for managing natural hazard risk and climate change adaptation through a number of either general or specific objectives, policies and implementation methods within chapters 3, 4, 6, 11, 12 and 13 and identifies where policies must be given effect to through district plans. • Objective 3.6 – Adapting to climate change promotes land use management that avoids the potential adverse effects of climate change, including sea level rise on amenity, the built environment, infrastructure, indigenous biodiversity, natural character, public health and safety and public access. Relevant policies are 4.1, 6.1, 6.2, 12.4, 13.1 and 13.2. • Objective 3.23 – Public access promotes the maintenance and enhancement of public access to the coast, lakes, and rivers. Relevant policies are 4.1, 6.1, 6.2 and 12.4. • Objective 3.24 – Natural Hazards promotes managing the effects of natural hazards on people, property, and the environment by increasing community resilience, reducing risk to acceptable or tolerable levels and enabling the effective and efficient response and recovery from natural hazard events. Policies 4.1, 6.1, 6.2, 13.1, 13.2 and 13.3. • Policy 4.1 – Integrated approach requires the adoption of an integrated approach to the management of resources through the recognition of the inter-connectedness of natural and physical resources; the benefits of aligning decisions of agencies across boundaries; maximising benefits and efficiencies of working together; the multiple values of natural and physical resources including ecosystem services; the nature and values of resources and the diversity of effects that can occur; the ability to maximise opportunities to achieve multiple objectives; the benefits of taking a long term strategic approach that recognises the change to the environment, resource use and pressures and trends; best consistent and practice standards and processes to decision making; and the establishment of a planning framework that sets clear limits and thresholds for resource use. • Policy 6.1 – Planned and co-ordinated subdivision, use and development seeks to ensure that subdivision, use, and development is planned and 	<p>The Waikato Tainui Environment Management (WTEMP) Plan 2018 discusses Natural Hazards in Chapter 17 and lists three key issues - land use, risk management and climate change in relation to natural hazards and provides an objective and policy framework to address these issues.</p> <p>The WTEMP includes provision for climate change, but only in so far as it relates to human induced climate change (noting that this is consistent with the definition in the RMA). The WTEMP recognises that global warming and climate change are likely to result in coastal inundation from an increase in mean sea level rise; more extreme weather events; changes to rainfall patterns; increased erosion; changes in the population density and distribution of fish and wildlife; and changes in the viability of cultural and/or spiritual resources and activities. The WTEMP also recognises that human-induced climate change and its projected effects are a controversial issue both globally and nationally.</p> <p>The impact that climate change has on indigenous flora and fauna is largely unknown, therefore Waikato-Tainui consider it vital that they actively engage and contribute to any nationally led initiatives, policies, guidelines and programmes on climate change. Most importantly, Waikato-Tainui wants to avoid any disruption that climate change causes to indigenous ecosystems.</p> <p>Climate change is intricately linked with natural hazards, as climate change is predicted to increase the frequency and magnitude of weather-related natural hazards. The WTEMP identifies sea level rise, more frequent and intense rainfall as well as increased frequency and duration of drought as likely impacts of climate change. The plan identifies the need to change the way hazards are managed to protect developments in areas that may be at risk in the future.</p> <p>It is considered that the proposed provisions take into account the provisions in the WTEMP.</p>

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	<p>The proposed natural hazard provisions will assist with the consideration of subdivision applications against section 106 as they will provide guidance around what is considered to be acceptable risk.</p>		<p>co-ordinated and is based on sufficient information to allow assessment of potential cumulative and long-term effects of them development; has regard to the existing built environment; and has regard to the development principles in section 6A.</p> <ul style="list-style-type: none"> • Section 6A - Development Principles. The specific principles in section 6A relating to natural hazards and climate change are, 6A(h) ensure development is directed away from natural hazard areas, 6A(l) maintain and enhance public access to and along the coast marine area, 6A(p) be appropriate with respect to the projected effects of climate change and be designed to allow adaptation to these effects, and 6A(q) consider the effects on the unique tangata whenua relationships, values, aspirations, roles and responsibilities with respect to an area. • Policy 13.1 - Natural hazard risk management approach directs district plans to utilise a risk based approach to managing natural hazard risks through an integrated holistic approach. • This approach focusses on avoiding the creation of new 'intolerable' risk and reducing existing intolerable risk to tolerable or acceptable levels. The policy also focusses on protecting health and safety, enhancing community resilience, aligning civil defence approaches, and encouraging the use of natural features over man-made defences, while also promoting a natural systems/whole systems approach and using the best available information and best practices. • Policy 13.2 - Manage activities to reduce the risks from natural hazards sets out a framework for assessing subdivision, use and development on land subject to natural hazards to ensure risk is maintained at an acceptable or tolerable level, while avoiding levels of risk that are considered intolerable and minimising vulnerability to residual risk. This framework also discourages the use of hard protection structures, while promoting the use of natural defences, and also strongly discourages development that creates a demand for new protection structures. • In order to manage risk to subdivision, land use and development, district plans must first identify areas within the district that are subject to natural hazards, including areas at risk of flooding during a 1% AEP storm event; coastal hazards and residual risk, prioritising areas at high risk, (i.e., areas at high risk of flooding) and then controlling activities within those areas, including ensuring development is appropriate in areas at high risk. • Policy 13.3 - High impact, low probability natural hazard events requires local authorities to consider the potential effects of high impact, low probability natural hazard events such as tsunami, volcanic eruptions and earthquakes and to direct vulnerable development away from high risk hazard areas, and to promote contingency planning through civil defence readiness, response and recovery. <p>The Manawatū-Whanganui One Plan contains specific provisions for Natural Hazards:</p> <p>Issue 9-1: Effects of natural hazard events</p> <p>Natural hazard events can adversely affect people, including their social, economic, and cultural wellbeing,</p>
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			<p>and the natural and physical resources they rely on, such as property and infrastructure. In particular:</p> <ul style="list-style-type: none"> • development can exacerbate the risks from natural hazards, particularly flooding and coastal hazards, by placing more people, property and infrastructure in hazard-prone areas and by reducing the effectiveness of existing hazard mitigation measures such as stop banks; • climate change is likely to cause the hydrological cycle to become more extreme, resulting in an increase in the intensity and frequency of hazards such as droughts, heavy rainfall, cyclones, and storm surges; and • predicted sea level rise* is likely to increase the risk of inundation and damage to communities and infrastructure in coastal areas during natural hazard events. <p>Objective 9-1 - The adverse effects of natural hazard events on people, property, infrastructure, and the wellbeing of communities are avoided or mitigated.</p> <p>Policy 9.1 - In accordance with s62(1)(i) RMA, local authority responsibilities for natural hazard management in the Region are as follows:</p> <p>(a) The Regional Council and Territorial Authorities must be jointly responsible for:</p> <p>(i) raising public awareness of the risks of natural hazards through education, including information about what natural hazards exist in the Region, what people can do to minimise their own level of risk, and what help is available.</p> <p>(b) The Regional Council must be responsible for:</p> <p>(i) developing objectives and policies for Region-wide management of activities for the purpose of avoiding or mitigating natural hazards,</p> <p>(ii) developing specific objectives, policies, and methods (including rules) for the control of:</p> <p>(A) all land use activities in the coastal marine area,</p> <p>(B) erosion protection works that cross or adjoin mean high water springs,</p> <p>(C) all land use activities in the beds of rivers and lakes, for the purpose of avoiding or mitigating natural hazards, and</p> <p>(iii) taking the lead role in collecting, analysing, and storing regional natural hazard information and communicating this information to Territorial Authorities.</p> <p>(c) Territorial Authorities must be responsible for:</p> <p>(i) developing objectives, policies, and methods (including rules) for the control of the use of land to avoid or mitigate natural hazards in all areas and for all activities except those areas and activities described in (b)(ii) above, and</p> <p>(ii) identifying floodway's (as shown in Schedule J1) and other areas known to be inundated by a 0.5% annual exceedance probability (AEP) flood event on planning maps in district plans and controlling land use activities in these areas in accordance with Policies 9-2 and 9-3.</p>	
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			<p>of existing <i>flood hazard avoidance</i> or mitigation measures, including works and <i>structures</i> within River and Drainage Schemes, natural landforms that protect against inundation, and overland stormwater flow paths, are avoided,</p> <ul style="list-style-type: none"> iv. ensure that adverse effects on existing <i>structures</i> and activities are avoided or mitigated, v. have regard to the likelihood and consequences of the proposed flood hazard mitigation measures failing, vi. have regard to the consequential <i>effects</i> of meeting the requirements of (d)(ii), including but not limited to landscape and natural character, urban design, and the displacement of floodwaters onto adjoining <i>properties*</i>, and vii. have regard to the proposed ownership of, and responsibility for maintenance of, the flood hazard mitigation measures including the appropriateness and certainty of the maintenance regime. <p>e. Within that part of the Palmerston North City Council district that is protected by the Lower Manawatū River Flood Control Scheme to a 0.2% AEP (1 in 500 year) standard, including the Mangaone Stream stop bank system, additional <i>flood hazard avoidance*</i> or mitigation measures will generally not be required when establishing any new <i>structure</i> or activity or increasing the scale of any existing <i>structure</i> or activity.</p> <p>f. Despite Policy 9-2(d)(i) and (ii), within that part of the Whanganui central city bounded by Bates Street, Ridgway Street and Victoria Avenue, flood hazard mitigation measures will not be limited to considering flood height and flow but will include such methods as resilient construction and emergency management systems.</p> <p>g. This policy does not apply to new <i>critical infrastructure</i>.</p> <ul style="list-style-type: none"> • Policy 9-3: <i>New critical infrastructure*</i> <p>The placement of new <i>critical infrastructure</i> in an area likely to be inundated by a 0.5% AEP (1 in 200 year) flood event² (including flood ways mapped in Schedule J), or in an area likely to be adversely affected by another type of natural <i>hazard</i>, must be avoided, unless there is satisfactory evidence to show that the <i>critical infrastructure</i>:</p> <ul style="list-style-type: none"> a. will not be adversely affected by floodwaters or another type of <i>natural hazard</i>, b. will not cause any adverse <i>effects</i> on the environment in the event of a flood or another type of <i>natural hazard</i>, c. is unlikely to cause a significant increase in the scale or intensity of natural hazard events, and d. cannot reasonably be located in an alternative location. 	
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			<p>Policy 9-4: Other types of <i>natural hazards</i></p> <p>The Regional Council and <i>Territorial Authorities</i> must manage future development and activities in areas susceptible to <i>natural hazard</i> events (excluding flooding) in a manner which:</p> <ol style="list-style-type: none"> ensures that any increase in risk to human life, property or infrastructure from <i>natural hazard</i> events is avoided where practicable, or mitigated where the risk cannot be practicably avoided, is unlikely to reduce the effectiveness of existing works, <i>structures</i>, natural landforms, or other measures which serve to mitigate the <i>effects</i> of <i>natural hazard</i> events, and is unlikely to cause a significant increase in the scale or intensity of <i>natural hazard</i> events. <p>Policy 9-5: Climate change</p> <p>The Regional Council and Territorial Authorities must take a precautionary approach when assessing the effects of climate change and <i>sea level rise</i> on the scale and frequency of natural hazards with regard to decisions on:</p> <ol style="list-style-type: none"> stormwater <i>discharges</i> and effluent disposal, coastal development and coastal <i>land use</i>, activities adjacent to <i>rivers</i>, water allocation and <i>water takes</i>, activities in a <i>Hill Country Erosion Management Area*</i>, flood mitigation activities, and managing storm surge. 	
<p>OPERATIVE WAITOMO DISTRICT PLAN</p>			<p>IWI MANAGEMENT PLANS</p>	<p>OTHER RELEVANT PLANS OR LEGISLATION</p>
<ul style="list-style-type: none"> Natural Hazards are currently dealt with in Chapter 27 of the Operative District Plan (ODP). The ODP contains provisions relating to flooding and land instability. The land instability rules apply to Te Kūiti. The mudstone slopes of Te Kūiti have unstable characteristics and are at risk particularly of landslide, particularly from earthworks and the placement of buildings. For this reason, any buildings in these areas require a consent with geotechnical advice so the potential effects can be considered. The rules in areas identified as flood hazard in Te Kūiti also require a resource consent. 			<p>A summary of the provisions in the Maniapoto Environment Management Plan 2018 (MEMP) relevant to Natural Hazards are as follows:</p> <p>Parts 13 (climate change), 15 (wetlands) and 20 (natural hazards) of the MEMP highlight issues with regards to increasing risk from natural hazards; preparedness and resilience; climate change; and flood protection and drainage.</p> <p>The MEMP defines natural hazards as naturally occurring processes that pose a risk to people and property, and within its rohe includes climate-related hazards such as flooding, drought, and hill country erosion. It also recognises that Maniapoto cannot avoid the events occurring, but can take steps to reduce the risk, prepare responses and increase resilience.</p>	<ul style="list-style-type: none"> Section 71-73 of the Building Act 2004. Civil Defence Emergency Management Act 2002. Sections 11A(d), 145(b) and 149 of the Local Government Act 2002.
<p>SCALE & SIGNIFICANCE s32(1)(c)</p>				<p>STRATEGIC DIRECTION</p>
<p>The assessment is based on eight factors outlined in Ministry for the Environment’s guidance on Section 32 reports. Each factor is scored in terms of its scale and significance (where 1 is low and 5 is high).</p> <p>Reason for Change: 4 Problem / Issue: 3 Degree of Shift from Status Quo: 2</p>			<p>The MEMP recognises climate change as a key driver for more frequent and severe natural hazard events. Flood protection and drainage schemes are recognised as key components that ensure continued productivity. Natural infrastructure such as wetlands is a major asset in combating and adapting to climate change.</p> <p>It is considered that the proposed PDP provisions take into account the relevant matters in the MEMP.</p>	<p>The following objective from the Strategic Directions chapter of the PDP are relevant to this topic:</p> <p>SD-014: There is no significant increase in the risk from known natural hazards, including the effects of climate change, to people, property, and infrastructure as a result of subdivision, land use and development.</p>

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<p>Who and How Many Affected, Geographic Scale of Effects: 2 Degree of Impact on or Interest from Māori: 1 Timing and Duration of Effects: 2 Type of Effect: 5 Degree of Risk or Uncertainty: 1</p> <p>Total (out of 40): 20</p>			<p>SD-015: The community is prepared to adapt to the effects of climate change and recognises the opportunities and risks associated with those effects.</p> <hr/> <p>UNCERTAINTIES AND RISKS s32(2)(c)</p> <p>The degree of risk and uncertainty is low due to the certainty provided by well-understood potential effects and the approach taken for their management in the proposed provisions.</p>
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OBJECTIVE(S) s32(1)(a)

Relevance – The proposed objectives seek to ensure that development within areas prone to natural hazards require additional consideration to ensure that the risks to life and property do not significantly increase. This is consistent with the outcomes sought under higher order direction and the strategic objectives. The proposed objectives take a consistent approach to natural hazards. The proposed objectives also recognise that natural hazards are more than just the event itself. Following a natural hazard event there may be a period of time that the community requires to recover from the event. The objectives seek to ensure that this ability to recovery from a natural hazard is not reduced compared to the existing situation by future development.

Usefulness – Outlines, the risk outcomes sought for development within the hazard overlays, which will guide decision making when considering a resource consent application under section 104 and 106 of the RMA.

Reasonableness – The proposed objectives will impose additional costs on the community and developers, as there will be lost opportunity costs for developments within hazard areas (i.e. might be restrictions on development, or the type and numbers of developments in areas effected by natural hazards (in particular the High Risk Flood Zone). In other natural hazard overlay areas, developments will need to incorporate mitigation measures to ensure that the impacts from natural hazards are reduced to an acceptable level (i.e. building platform suitability areas A, B and C). However, this needs to be balanced against the potential damage from natural hazard events. Overall, it is considered that the proposed objectives will not give rise to an unjustifiability high cost on the community.

Achievability – Land use planning decisions are one of the fundamental tools that councils have available to manage the risks associated with natural hazards and it is a fundamental consideration under the RMA. As such, the proposed objectives can be realistically achieved within Council’s power, skills, and resources.

Are the objectives the most appropriate way to achieve the Purpose of the Act?
The proposed objectives are considered to meet the tests of relevance, usefulness, reasonableness, and achievability. The objectives are the most appropriate way to achieve the purpose of the RMA because they are the most appropriate way to achieve the purpose of the RMA and to give effect to higher order direction. The proposed objectives take a risk based approach to the management of development and natural hazards and set the outcomes that are expected from development within the natural hazard overlays. The proposed objectives set the outcomes based on the degree of risk and use wording that is consistent with section 6(h) of the RMA, and both the RPS. The objectives also support the Council to carry out its functions under section 31(1)(a) and section 31(1)(aa) of the RMA.

PROVISIONS s32(1)(b)

EFFICIENCY & EFFECTIVENESS s32(1)(b)(ii), 32(2)(a)(i), s32(2)(a)(ii)	ALTERNATIVES s32(1)(b)(i)
<p>Benefits Anticipated</p> <p><u>Environmental</u> No direct or indirect environmental benefits have been identified with the proposed provisions.</p> <p><u>Economic</u> The direct economic benefits derived from the proposed provisions include; Reducing the damage to future properties and developments from natural hazard events as a result of incorporated mitigation measures; Reduced costs to recover from natural hazards (such as clean-up, repairing damage, loss of productivity). Communities that experience less damage in a natural hazard event are able to recover faster. This ensures significantly reduced economic impacts from when a natural hazard event occurs as the loss of productivity and employment opportunities are not as large or significant. Indirect benefits include potential fewer future costs to respond to future natural hazard events as they have been planned for.</p> <p><u>Social</u> Direct benefits: The risk from natural hazard events will not increase significantly when compared to the existing situation. As such, purchasers of properties that are located in natural hazard overlays should have mitigation measures built in to ensure that the development is not significantly impacted by future natural hazard events up to the identified design level. The construction of buildings that respond to the natural hazard risk will make them less susceptible to damage during a natural hazard event, therefore increasing the safety of the occupants, and reducing the social impacts that come from natural hazard events.</p> <p>Indirect benefits: There are no indirect social benefits identified with the proposed provisions.</p> <p><u>Cultural</u> No direct or indirect cultural benefits have been identified with the proposed provisions.</p> <p>Costs Anticipated</p> <p><u>Environmental</u> No direct or indirect environmental costs have been identified with the proposed provisions.</p>	<p>For the purpose of this evaluation, the Council has considered the following potential options: 1. The proposed provisions; and 2. The status quo.</p> <p>The ODP provisions are not considered to be efficient or effective in achieving the objectives. The existing objectives give limited effect to the higher order documents in that only the objective pertaining to fault lines recognises risk (and therefore has some alignment to section 6(h) and the RPS). However, the existing objectives do not give effect to the higher order documents as follows:</p> <ul style="list-style-type: none"> • The flood hazard objective does not reference risk and therefore does not respond to the RPS or section 6(h); and • There is an inconsistent approach between managing effects and risk within the ODP. • The ODP mapped hazard areas are based on current climatic conditions and do not factor in climate change as required by both RPS. • In Building Platform Suitability Area C the proposed provisions project rainfall to a 2120 future time horizon based on Representative Concentration Pathway 8.5. This means that a factor has been added to baseline levels to account for projected climate change.

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<p><u>Economic</u> Direct costs: The following direct economic costs have been identified; There will be increased costs to developments as a result of the need to incorporate mitigation measures into some development forms. These costs may not be significant in the context of the overall development costs as many of the proposed measures would include matters such as; Increased floor heights, setting buildings back from high and medium hazards areas, having buildings that are relocatable. These measures are easily able to be incorporated into developments at the time of construction, without presenting significant additional costs. There will be a greater requirement to go through the resource consent process when compared to the status quo. As such, there will be the direct costs associated with this process. For some property owners there will be a loss opportunity cost from not being able to develop their property due the hazards present on the site.</p> <p>Indirect costs: Linked with the proposed objectives, policies and rules are hazard maps within the District Plan. For many parties this will be the first time this information will be readily accessible. There may be increased pressure on the Council to reduce the extents of the natural hazard overlays through the construction of engineering measures.</p> <p><u>Social</u> No direct or indirect social costs have been identified with the proposed provisions.</p> <p><u>Cultural</u> No direct or indirect cultural benefits have been identified with the proposed provisions.</p>	<p>In order to identify other reasonably practicable options, the Council has undertaken the following:</p> <ul style="list-style-type: none"> - Reviewed other relevant district plan provisions for activities on the surface of water; - Sought specialist advice from Tonkin and Taylor in relation to various natural hazards; and - Consulted on the draft district plan. - Sought feedback from Council asset managers in terms of infrastructure.
<p>QUANTIFICATION OF BENEFITS & COSTS s32(2)(b)</p>	
<p>Section 32(2)(b) requires that, where practicable, the benefits and costs of a proposal are to be quantified. Given the assessment of the scale and significance of the proposed provisions, specific quantification of the benefits and costs in this report is considered neither necessary, beneficial nor practicable in relation to this topic.</p>	
<p>EFFICIENCY & EFFECTIVENESS s32(1)(b)(ii)</p>	<p>REASONS FOR PROVISIONS s32(1)(b)(iii)</p>
<p>Section 32(1)(b)(ii) requires assessing the efficiency and effectiveness of the provisions in achieving the objectives:</p> <p><u>Efficiency</u> The proposed provisions are considered to be the most efficient in achieving the proposed objectives because:</p> <ul style="list-style-type: none"> • They give effect to higher order direction (section 6(h), and both the RPS) through a clear, transparent, and consistent framework that is located within the PDP. • While the proposed provisions will result in some additional economic costs, it is considered that the resulting benefits to future occupants and the recovery of the District following a natural hazard event outweigh these costs. It is also noted that the additional costs to a development to incorporate mitigation measures into the design are often considerably less than the costs that result from damage (or repeated damage) from a natural hazard event. • The proposed provisions would assist with the transfer of costs for addressing natural hazard risk from future property owners and local and central government onto developers at the time the developments are undertaken. • In Te Kūiti, high risk flood zones are areas where the potential depth and speed of flood waters present an unacceptable level of risk in terms of the potential for loss of life, injury, or serious damage to property. Subdivision and new land use activities within the high risk flood zones are proposed to be regulated through provisions in the new plan which ensure that the flooding risk is minimised. • Building Platform Suitability C areas in Te Kūiti, Piopio and Waitomo Valley Road have a lower level of flooding risk and activities can generally be managed in new buildings by raising building platforms and floor levels. In Te Kūiti and Piopio these areas are mapped using a 1 in 100 year rainfall event (based on current climatic conditions), with rainfall projected to a 2120 future time horizon based on Representative Concentration Pathway 8.5. This means that a factor has been added to baseline levels to account for projected climate change. At the Waitomo Valley Road the area was mapped using a qualitative floodplain extent which was estimated, based on hydraulic constriction at the Waitomo Valley Road bridge and on-site observations. • In the Building Platform Suitability C the rules only apply to buildings people live in and to earthworks. <p><u>Effectiveness</u> The proposed provisions are considered to be the most effective in achieving the proposed objectives because:</p> <ul style="list-style-type: none"> • They give effect to higher order direction (section 6(h), and both RPS), which the proposed objectives also respond to; • The proposed provisions relate to the natural hazards that have the potential to have the greatest impact on the Waitomo District; • They take a nuanced approach to the management of natural hazard risk and development, where the activity status of the consent and the resulting direction provided within the policy is directly relative to the risk presented by the development; • The proposed provisions take a consistent approach across the various natural hazards. This approach is also consistent between differing development typologies; and • The proposed policies and rules will ensure appropriate management of natural hazard risk experienced by Council as a result of either discouraging development in areas effected by natural hazards or by requiring mitigation measures to address the risk from the natural hazard. • The proposed rules in high risk flood zones are quite strict to manage the level of risk. In the Building Platform Suitability C the rules only apply to buildings people live in and to earthworks. • Appendix 1 Information requirements for resource consent applications - provides clear guidance for applicants applying for resource consents in the hazard areas. 	<p>Section 32(1)(b)(iii) requires a summary of the reasons for deciding on the provisions:</p> <p>Having considered the proposed provisions and the status quo, it is considered that the proposed provisions are the most appropriate way to achieve the objectives. The proposed provisions give effect to high order direction and provide a clear framework for the consideration of development within natural hazard overlays. This framework has a number of economic and social benefits which are considered to outweigh the resulting costs. The status quo however is ineffective and inefficient and does not give effect to higher order direction. The existing provisions allow for a number of developments to occur within areas that are susceptible to natural hazard risk with little consideration of addressing the resulting risk. As a result, the risk profile to the District from development in areas susceptible to natural hazard overlays is slowly increasing, which has significant potential future economic and social costs, with very little resulting benefits. It is therefore considered that the status quo is not appropriate to achieve the outcome of the proposed objectives.</p>