



caring about you & your environment

Submission on the Hutt River Floodplain Management Plan

Presented by the Landcare Division Wellington Regional Council

Background

This submission covers suggested material changes to the Consultation Draft. Those are changes that alter the meaning of the information contained in the Consultation Draft, and do not include general editing changes. Material changes covered by other submissions on the Consultation Draft, and supported by the Flood Protection Group, are not covered by this submission although some overlap does occur.

General editing changes include content editing, style, structural or graphical changes. These changes will be determined prior to preparing the Draft Hutt River Floodplain Management Plan for the 12 July Advisory Committee meeting. The Flood Protection Group will manage changes to the document, with guidance from a professional editor. Regional Council Environment Division staff and officers of Upper Hutt and Hutt City Councils will also be involved in the editing process.

Relief Sought

1. Introduction

1.1 Section 1.1.4 (pages 11-14) Hutt floodplain flood extent maps.

Re-title the first set of maps (pages 11 and 12) so that they represent the 2300 flood extent with breaches, affecting the upgraded flood protection system. Add to the text an appropriate statement comparing risk between the two scenarios.

- *The titles on the flood extent maps are misleading. As titled, the maps do not reflect the true flood risks along the river associated with the current or upgraded system. Altering the titles and text will clarify these risk issues. Note that the flood maps, themselves, do not require amending.*

2. FMP Outcomes

2.1 Section 2.4.1 (page 63): Hazard Areas Affecting the Hutt River Corridor.

Include a *Core Flooding Area* as part of the Primary River Corridor, and add to the text an appropriate description explaining this term.

Alter the legend on River Corridor Reach Plans contained in Appendix 4 to the Consultation Draft by including the *Core Flooding Area*.

- *The amendments are required because as defined in the Consultation Draft, the Primary River Corridor would only contain erosion hazard areas, which is not the case. The requested changes would reduce the opportunity for misinterpretation by readers of the Plan.*

2.2 Section 2.4.3 (page 71): Hutt Floodplain Hazard Areas.

Re-define the Seaview area as a Higher Risk Floodplain Hazard Area.

- *Seaview is not a Lower Risk Area as shown on the Figure on Page 71, because the area is only protected from flooding by a low lying bund situated along part of the riverward side of Port Road. The bund will not be upgraded nor stopbanks constructed under the HRFMP Structural Measures.*

2.3 Table 3, Section 2.4.3 (pages 72–83): Non-structural Measures Outcomes.

Modify Table 3 according to the highlighted amendments contained in **Appendix 1** to this submission.

- *The changes to Table 3 are either corrections to errors and omissions, provide clarification, or are additions that reflect requested changes to the Non-structural Principles (refer to section 3.8 of this submission).*
- *No additional discussion has been prepared to support the requested modifications. However, the Flood Protection Group will explain the amendments at the 24 May meeting, if requested by the Advisory Committee.*
- *These modifications were sent on Wednesday 18 April to relevant officers at Hutt and Upper Hutt City Councils for comment. General responses provided in the Hutt and Upper Hutt City Council submissions discussed the need for ongoing flexibility in developing measures. Upper Hutt City Council's submission also requested amendments to the Non-structural Principles that are additional to those provided in this submission.*

3. Policy Backing

3.1 Section 4.2.3 (page 108): Policy 4 – Considering Flood Detention Dams.

Add to this Policy a statement explaining that Dams will not be used as a flood mitigation measure under the Hutt River Floodplain Management Plan.

- It is important to be clear that this option was considered and rejected during the evaluation of structural measures' options for the Hutt River floodplain.

3.2 Section 4.2.3 (page 110–111):

- Policy 8 – Removing Services from Stopbanks
- Policy 9 – Managing and Protecting Utility Services in the River Corridor

Modify these policies to be consistent with agreed Utilities and Services Policy.

- *These policies provide backing to the Utilities and Services Policy, and are intended to be more general in their nature. While the intent of Policies 8 and 9 should not change, some of the detail provided in the Issue, Policy and Explanation parts is likely to require adjustments. Appropriate amendments to these policies can only be developed once the Advisory Committee has agreed on the Draft Utilities and Services Policies.*

3.3 Section 4.2.3 (page 112): Policy 11 – Managing the River Environment.

Re-title the Policy: *Minimising the Adverse Effects of Physical Works.*

- *The present title does not appropriately reflect the stated policy, and could be misleading.*

3.4 Section 4.2.3 (page 114): Policy 14 – Clarifying Floodplain Management Planning Roles.

Add to the Policy and Explanation statements regarding the split in responsibilities for managing stormwater and river flooding.

- *An addition is required to this Policy, which clarifies the split in responsibility, is to help explain to the public key differences in the respective Councils' responsibilities.*

3.5 Section 4.2.3 (page 114): Policy 15 – Ensuring Floodplain Management Planning Serves the Community.

Add to the Issue, Policy and Explanation statements regarding the distinction between stormwater and river-based flooding, and the ongoing need to inform the public about these differences.

- *This matter had been raised during phase 1 consultation in 1996 as a key issue requiring further public explanation. The matter has been raised in subsequent consultation since.*
- *An addition to this Policy, requiring further public information to clarify the distinction between stormwater and river flooding, will help to clear up the uncertainties the community has regarding this issue.*

3.6 Section 4.2.3 (page 117): Policy 18 – Producing By-laws Protecting Regional Council Assets.

Re-title the Policy: *Protecting Regional Council Assets*

Amend the Issue, Policy and Explanation in this policy to cover additional tools that help protect flood defence assets, including Asset Management Plans, and Utilities and Services Policy.

- *The request is self-explanatory*

3.7 Section 4.2.4. (pages 117-118): Guidelines for Services and Infrastructure.

Delete this section, including Table 6, and replace it with the agreed Utilities and Services Policy.

- *The Draft Utilities and Services Policy will provide superior guidance to the management of these activities in the River Corridor.*

3.8 Section 4.3.6 (pages 72-81): Non-structural Principles.

Modify Table 3 according to the highlighted amendments contained in **Appendix 2** to this submission.

- *The changes to the Non-structural Principles are either corrections to errors and omissions, or clarification required. The main additions concern further limitations to new development in the Primary River Corridor, where the flood flow and erosion hazard is extreme.*
- *No additional discussion has been prepared to support the requested modifications. However, the Flood Protection Group will explain the amendments at the 24 May meeting, if requested by the Advisory Committee.*
- *These modifications were sent on Wednesday 18 April to relevant officers at Hutt and Upper Hutt City Councils for comment. General responses provided in the Hutt and Upper Hutt City Council submissions discussed the need for ongoing flexibility in developing measures.*

3.9 Section 4.4.3 (pages 137 - 141): Guiding Principles and Policy Guidelines.

Add separate policies:

- enabling land exchange or purchase to be considered in order to advance Environmental Strategy enhancement projects;
- dealing with 'undesirable land uses' in the river environment, including adverse vehicle use, vandalism and rubbish dumping.
- covering Flood Protection operations and maintenance functions.

- *Policy enabling land acquisition to be considered provides appropriate flexibility to enhancement projects. It is practical to consider land acquisition particularly where the potential improvements to various enhancement projects may lead to a significant community benefit.*
- *Policy dealing with undesirable land uses would promote the use of tools such as by-laws and the programmed River Ranger to help curb adverse uses of the river environment.*
- *Policy dealing with operations and maintenance functions will give a mandate to a number of current practises, for instance, removing vegetation which affects stopbanks.*

4. Appendices

4.1 Appendix 3: Properties Affected by River Corridor Boundary and Structural Works.

Include additional residential properties downstream of Norbert Street and upstream of Gemstone Drive, Upper Hutt, affected by the River Corridor boundary.

- *This request is self-explanatory.*

4.2 Appendix 4: River Corridor Reach Plans.

Change the Safeway Storage property to Secondary River Corridor.

- *The Safeway Storage property is classed as Primary River Corridor in the Consultation Draft. The Non-structural Options Working Group had decided to modify the Hazard Area for this property accordingly. Like the Belmont Flat area, the site has already been developed for an intensive land use, and is zoned accordingly in the Hutt City Council's Proposed District Plan. This modification was missed in the final drafting of the River Corridor Hazard Areas.*
- *Although the site is still part of the River Corridor, Non-structural Principles for Secondary River Corridor areas would generally provide more development flexibility for landowners.*

Appendix 1

Recommended Amendments to Non-structural Outcomes Tables

These are the recommended amendments to the Non-structural outcomes tables. The amendments are *recorded in this font and shading*

Proposed Land Use Measures

Outcomes for the Upper Catchment

No amendments

Activity	Regulate/Control	Voluntary Action
Earthworks	Annual rate of earthworks – UHCC District Plan	Monitor and investigate vegetation clearance and soil excavation in the upper catchment.
General	Policy in UHCC District Plan <ul style="list-style-type: none"> Recognise flood hazard responsibilities between UHCC and WRC and general effects on flood risk 	Forward forestry development and harvesting notices to WRC Monitor land use changes Monitor rural subdivision Promote WRC policy covering WRC land management in the upper catchment land influencing the flood hazard Promote WRC policy to manage the flood risk in the upper catchment

Outcomes for the River Corridor Hazard Areas

River Corridor Activity	Primary		Secondary	
	Regulate/Control	Voluntary Action	Regulate/Control	Voluntary Action
Habitable Buildings	Resource consent required – such as a Non-Complying Activity for any habitable buildings		Resource consent required – such as a Non-Complying Activity for areas <u>not</u> currently zoned for that activity New buildings require mitigating 2300 flood effects – in greenfield areas currently zoned for that activity Erosion protection required for building adjacent Moving Erosion Areas	
Accessory Buildings and Ancillary Structures	Permitted Activity: requires performance standards governing matters such as size and adverse effects to be met – otherwise a resource consent is required	Resource consent required Encourages: <ul style="list-style-type: none"> Siting buildings outside erosion hazard areas and flow paths. Strengthen buildings Provide information for a range of flood scenarios 	Same as for Primary River Corridor	Same as for Primary River Corridor

River Corridor	Primary		Secondary	
	Regulate/Control	Voluntary Action	Regulate/Control	Voluntary Action
Buildings Associated with Strong Community Reliance <i>These are buildings that house important activities which the community or parts of it strongly rely on for the community's day to day functioning (for instance, work places)</i>	Resource consent required – such as a Non-Complying Activity for any buildings with strong community reliance		Resource consent required controlling: <ul style="list-style-type: none"> Mitigating effects of 2300 flood – on land currently zoned for that activity (greenfield site) Require mitigating effects of 1900 flood – on land currently zoned for that activity (existing developed areas) 	Encourage land owners and developers to mitigate effects of a 2300 flood, or where practicable to locate outside the river corridor.
Buildings with lesser or no Community Reliance (including All Other Buildings, such as clubrooms)	Resource consent required – such as a Non-Complying Activity for any buildings with lesser community reliance	Encouraged to mitigate 2300 event flood effects (including maintaining safety of the flood defence system)	Resource consent required controlling: <ul style="list-style-type: none"> size and location in relation to flood defence structures cumulative adverse effects 	Provide information on a range of flood scenarios for: <ul style="list-style-type: none"> Constructing buildings to various flood standards (encouraging the 2300 std) Siting away from flow paths protecting key parts of operation
Subdivision	Resource consent required – such as a Non-Complying Activity in areas <u>not</u> currently zoned for that activity New property titles tagged where they would not be protected from erosion or flooding.	Strongly discouraged where the resulting uses expose people and assets to an increased hazard level	Same as for Primary River Corridor	Discourage subdivision for habitable use where new development is intended outside existing intensive development zones

River Corridor Activity	Primary		Secondary	
	Regulate/Control	Voluntary Action	Regulate/Control	Voluntary Action
Subdivision – minor boundary adjustments Earthworks	Permitted Activity Permitted Activity: requires performance standards governing volume, dimensions and adverse effects to be met – otherwise a resource consent is required		Permitted Activity Permitted Activity: requires performance standards governing adverse effects to be met – otherwise a resource consent is required	
Hazardous Substances – Existing areas	Resource consent required – such as a Non-Complying Activity in areas not currently zoned for that activity		Permitted Activity: requires securing storage in a 2300 flood, and other performance standards	Information on how to mitigate effects of a 2800 flood will be provided New land uses requiring hazardous substances as a key part of their daily operations will be discouraged from locating in river corridor

River Corridor	Primary		Secondary	
	Regulate/Control	Voluntary Action	Regulate/Control	Voluntary Action
<p>Critical Facilities</p> <p>Healthcare and Emergency Services</p> <p>Key Network Facilities are those parts of a utility service critical for ongoing function. Damage to these parts would considerably worsen flooding impacts, particularly as they may not be quickly repaired.</p> <p>Critical Facilities are buildings and services where disruption to their associated activities would significantly worsen the potential impacts of a flood.</p> <p>New and Upgraded Bridges</p>	<p>Resource consent required – such as a Non-Complying Activity</p> <p>Resource consent required controlling:</p> <ul style="list-style-type: none"> New and redeveloped key facilities ensuring they can operate in a 2800 flood <p>Permitted Activity – requiring new sewerage and water supply networks to be protected from erosion and scour effects to the 1900 standard</p> <p>Resource consent required controlling:</p> <ul style="list-style-type: none"> Bridges and the associated floodway passing a 2800 cumec flood without adversely affecting any flood defences, or raising upstream flood levels. Akatarawa Bridge is excluded from the 2800 requirement 	<p>Alternative siting of key facilities will be promoted</p> <p>Promote alternative siting of key facilities away from the River Corridor</p> <p>2800 standard contingency plans encouraged for existing facilities</p>	<p>Resource consent required – such as a Non-Complying Activity</p> <p>Same as for Primary River Corridor</p>	<p>Encourage alternative siting of new healthcare facilities and emergency services</p> <p>Same as for Primary River Corridor</p>

River Corridor	Primary		Secondary	
	Regulate/Control	Voluntary Action	Regulate/Control	Voluntary Action
<p>Information on Property Titles</p>	<p>Hazard information will be tagged on <u>new property titles</u> where proposed structural works would not protect those properties from:</p> <ul style="list-style-type: none"> • An identified river erosion hazard • A 2300 flood affecting greenfield areas, or 1900 flood in existing developed areas 		<p>Same as for Primary River Corridor</p>	
<p>Transitional Measures</p> <p><i>Applying while programmed structural measures to improve flood protection are completed</i></p>	<p>For land exposed to the flooding hazard, tagging information on:</p> <ul style="list-style-type: none"> • New property titles • New buildings and significant extensions (where practical and feasible) <p>Flood hazard information equates to at least:</p> <ul style="list-style-type: none"> • An identified river erosion hazard • 1900 curmec flooding <p>The River Corridor boundary at Belmont will be modified following completing bank edge protection works</p>		<p>Same as for Primary River Corridor</p>	

Outcomes for Floodplain Hazard Areas

Floodplain Activity	Higher Risk		Low-Moderate Risk	
	Regulate/Control	Voluntary Action	Regulate/Control	Voluntary Action
Habitable Buildings	Resource consent required controlling: <ul style="list-style-type: none"> new buildings mitigating 1900 flood effects 	<ul style="list-style-type: none"> Encourage mitigating the effects of a 2300 flood Provide information for the 2300 flood to support constructing buildings to manage flood hazard effects, including flow 	No controls recommended	<ul style="list-style-type: none"> Encourage mitigating the effects of flooding from stopbank breaches or overtopping Provide information for a range of flood breach scenarios to support constructing buildings to manage flooding effects, including ponding and flow
Accessory Buildings and Ancillary Structures		Provide information for a range of floods to support constructing buildings and structures to withstand flow effects	No controls recommended	Same as for Higher Risk Areas
Buildings Associated with Strong Community Reliance	Resource consent required controlling: <ul style="list-style-type: none"> Mitigating 1900 flood effects - on land currently zoned for that activity 	Discourage constructing new buildings in areas not currently zoned for that activity	No controls recommended	Encourage mitigating 2300 curmec flood effects

Floodplain Activity	Higher Risk		Low-Moderate Risk	
	Regulate/Control	Voluntary Action	Regulate/Control	Voluntary Action
Buildings with lesser or no Community Reliance	Permitted Activity in areas currently zoned for that purpose. requires performance standards governing matters such as location size and adverse effects to be met – otherwise a resource consent is required	Encourage mitigating 2300 cumec flood effects	No controls recommended	
Subdivision – for uses outside existing zones	Resource consent required – such as a Non-Complying Activity in areas <u>not</u> currently zoned for that activity New property titles tagged where they would not be protected from erosion or flooding.	Strongly discouraged where the resulting uses expose people and assets to an increased hazard level	No controls recommended	Same as for Higher Risk Areas
Subdivision – minor boundary adjustments	Permitted Activity		No controls recommended	
Earthworks	Requires avoiding or mitigating adverse flood effects		No controls recommended	Provide information for a range of flood breach scenarios to support placing fill appropriately

Floodplain Activity	Higher Risk		Low-Moderate Risk	
	Regulate/Control	Voluntary Action	Regulate/Control	Voluntary Action
Hazardous Substances - Existing areas	<p>Resource-consent required-controlling:</p> <ul style="list-style-type: none"> Securing substances for a 2300 flood <p>Permitted Activity: requires securing storage in a 2300 flood, and other performance standards</p>	Mitigating the effects of a 2800 flood will be encouraged	No controls recommended	

Floodplain Activity	Higher Risk		Low-Moderate Risk	
	Regulate/Control	Voluntary Action	Regulate/Control	Voluntary Action
Critical Facilities Healthcare and Emergency Services	<p>Permitted Activity:</p> <ul style="list-style-type: none"> New in-patient services required to demonstrate ability to operate services in a 2800 cumeec flood new out-patient facilities and emergency services to produce contingency plans meeting the 2800 cumeec standard 	<p>Alternative siting of new and any existing healthcare facilities and emergency services will be encouraged</p>	<p>Permitted Activity for new in-patient services – required to demonstrate ability to operate services in a 2800 cumeec flood</p>	<p>New and existing out-patient healthcare facilities and emergency services will be encouraged to produce contingency plans detailing how they will manage a 2800 flood with breaches</p> <p>Provide information for a range of flood breach scenarios to support appropriate siting of emergency services</p>
Key Network Utilities	<p>Permitted Activity:</p> <ul style="list-style-type: none"> new and redeveloped key facilities required to ensure they can operate in a 1900 cumeec flood new networks for sewerage and water supply to meet the 1900 flood standard 		<p><i>No controls recommended</i></p>	<p>New and existing network utility facilities will be encouraged to produce contingency plans detailing how they will manage a 2300 flood with breaches</p> <p>Provide information for a range of flood breach scenarios to support appropriate siting of emergency services</p>

Floodplain Activity	Higher Risk		Low-Moderate Risk	
	Regulate/Control	Voluntary Action	Regulate/Control	Voluntary Action
Information on Property Titles <i>Included as a Transitional Measure until new structural works are in place</i>	Hazard information will be tagged on new property titles where proposed structural works would not protect those properties from: <ul style="list-style-type: none"> • An identified erosion hazard • A 2300 flood affecting greenfield areas, or a 1900 flood in existing developed areas 		Hazard information will be tagged on new property titles where proposed structural works would not protect those properties from: <ul style="list-style-type: none"> • An identified erosion hazard • A 2300 flood affecting greenfield areas, or 1900 in existing developed areas 	
Transitional Measures <i>Applying while programmed measures improving flood protection are completed</i>	For land exposed to the flooding hazard, tagging information on: <ul style="list-style-type: none"> • New property titles • New buildings and significant extensions (where practical and feasible) Flood hazard information equates to at least: <ul style="list-style-type: none"> • An identified river erosion hazard • 1900 curmec flooding 		Same as for Higher Risk Areas	

Appendix 2

Requested Amendments to Non-structural Principles

These are the recommended amendments to the Non-structural Principles. The amendments are **recorded in this font and shading.**

1. Land Use Measures

- Measures for the Upper Catchment
- Habitable buildings
- Accessory buildings and ancillary structures
- All other buildings
- Subdivision
- Earthworks
- Hazardous substances
- Critical facilities
- Capacity of new bridges
- Information on Property Titles
- Voluntary Actions

2. Emergency Management Programmes and Procedures

1. Land Use Measures

Land use measures, applying to the *upper catchment*, *river corridor*, or *floodplain*, are presented in the tables below. Maps showing the extent of these areas can be found in Section 2.4. Technical terms are defined in the Glossary.

Measures for the Upper Catchment
<p>Rate of Earthworks</p> <p>UHCC will have the ability to control the annual rate of earthworks, as requested in the WRC submission on the UHCC Proposed District Plan.</p>
<p>Policy in District Plans</p> <p>Policy in the UHCC District Plan will clearly recognise: flood hazard management responsibilities between UHCC and WRC. general effects on the flood risk.</p>

Compatible with HRFMP Environmental Strategy

Buildings in the River Corridor need to be compatible with the predominant uses in the river corridor including open space, recreation and rural activities. These uses are also generally consistent with the Linear Park concept, and general vision for the river corridor area promoted through the HRFMP Environmental Strategy.

Note: Formerly under all other buildings – but it actually applies to all buildings.

Habitable Buildings

Primary River Corridor

Constructing any habitable building to the 2300 cumec standard on land zoned for that purpose will require 1900 (developed areas) or 2300 (greenfield areas) standard erosion protection to be provided.

The landowner or developer will provide erosion protection. The protection standard, buffer requirements, ongoing maintenance and ownership responsibilities, and costs, will also need to be provided for.

Remaining River Corridor

Mitigating Flood Hazard Effects

Constructing habitable buildings in greenfield areas currently zoned for that use will require 2300 flood effects to be mitigated.

Constructing new habitable buildings will be discouraged in areas not currently zoned for that land use.

No Adverse Flood Hazard Effects Caused

Constructing habitable buildings *and associated site modification* will require adverse flood hazard effects to be avoided or mitigated.

New Buildings Discouraged

Exposing new habitable buildings the flood hazard in high risk areas represents unwise floodplain management planning. Selecting alternative sites away from the River Corridor will be encouraged.

Higher Risk Floodplain Hazard Areas

Mitigating Flood Hazard Effects

All new habitable buildings and significantly redeveloped habitable buildings will be required to mitigate the flood effects of a 1900 cumec flood.

Developers and landowners will be strongly encouraged to mitigate the effects of a 2300 cumec flood.

Low to Moderate Risk Floodplain Hazard Areas

Mitigating Flood Hazard Effects

Developers and landowners protected by stopbanks will be encouraged to consider mitigating the effects of flooding from stopbank breaches or overflows.

Accessory Buildings and Ancillary Structures

Primary River Corridor and Higher Risk Floodplain Hazard Areas Associated with Residential Zones

Building Permitted

Accessory buildings and ancillary structures will be permitted in **Primary River Corridor areas** **erosion hazard areas** and Higher Risk Floodplain Areas currently zoned for residential purposes.

Mitigating Flood Hazard Effects and Alternative Sites Encouraged

Where practicable, developers and landowners will be encouraged to site accessory buildings and ancillary structures outside the erosion hazard areas and flow paths. Where alternative siting is not possible or desired, encouragement will be given to:

- strengthen buildings/structures to withstand flood hazard effects
- elevate floor levels
- build relocatable buildings

Remaining River Corridor

No Adverse Flood Hazard Effects

Accessory buildings and ancillary structures will be required to avoid or mitigate adverse flood hazard effects.

The setback distance from flood protection structures, and the dimensions and orientation of structures will determine whether effects are likely to be minor.

Mitigating Flood Hazard Effects and Alternative Sites Encouraged

Where practicable, developers and landowners will be encouraged to site accessory buildings and ancillary structures outside the Primary River Corridor.

Where alternative siting is not possible or desired, encouragement will be given to:

- strengthen buildings/structures to withstand flood hazard effects
- elevate floor levels
- build relocatable buildings

~~All Other Buildings excluding:~~

- ~~• Habitable Buildings~~
- ~~• Accessory Buildings~~
- ~~• Ancillary Structures~~

~~Primary River Corridor~~

~~Constructing any building to the 2300 cume standard on land zoned for that purpose will require 1900 (developed areas) or 2300 (greenfield areas) standard erosion protection to be provided.~~

~~The landowner or developer will provide erosion protection. The protection standard, buffer requirements, ongoing maintenance and ownership responsibilities, and costs, will also need to be provided for.~~

~~Remaining River Corridor and Higher Risk Floodplain Hazard Areas~~

~~*New Buildings Discouraged*~~

~~Landowners and developers will be strongly discouraged from siting new buildings in the River Corridor. Exposing new buildings to the flood hazard in high risk areas represents unwise floodplain management planning. Selecting alternative sites away from the River Corridor will be encouraged.~~

~~*No Adverse Flood Hazard Effects*~~

~~All buildings and associated site modification must not cause adverse flood hazard effects.~~

~~*Compatible with HRFMP Environmental Strategy*~~

~~Buildings in the River Corridor need to be compatible with the predominant uses in the river corridor including open space, recreation and rural activities. These uses are also generally consistent with the Linear Park concept, and general vision for the river corridor area promoted through the HRFMP Environmental Strategy.~~

Note: Now covered under habitable buildings, community reliance or as a separate principle (in the case of Environmental Strategy compatibility).

Buildings Associated with Strong Community Reliance¹

Managing the 2300 Flood in Unprotected Greenfield Areas

New buildings constructed in unprotected greenfield areas currently zoned for that land use will require mitigating the effects of a 2300 flood. New buildings will not be allowed in Primary River Corridor.

Managing the 1900 Flood in Higher Risk Floodplain Hazard Areas

New buildings and significantly redeveloped buildings in currently developed Higher Risk Floodplain Areas will be required to mitigate the effects of a 1900 flood.

Landowners and developers will be strongly encouraged to mitigate the effects of a 2300 flood.

Buildings with Lesser or No Measurable Community Reliance Which Concentrate People

Developers and land owners will be strongly discouraged from siting in the Primary River Corridor. Otherwise they will be required to mitigate the effects of a 50 year flood for new buildings that concentrate people infrequently. Where appropriate, encouragement will be given to mitigate the 2300 cume flood effects. The setback distance from flood defences, and potential for cumulative adverse effects on the flood protection system, will determine whether the effects are likely to be minor.

Buildings *with lesser community reliance* include sports clubrooms *and toilet blocks*. ~~And smaller scale commercial and industrial developments.~~

Encouraging Siting Outside the River Corridor

Exposing new buildings of strong community reliance to the flood hazard in high risk areas represents unwise floodplain management planning. Selecting alternative sites away from the River Corridor will be strongly encouraged.

Where practicable, developers and landowners will be encouraged to site buildings of lesser community reliance outside the Primary River Corridor.

¹ Community Reliance is defined in the Glossary.

Buildings Adjacent *Moving* Erosion Areas**Providing Erosion Protection**

Landowners and developers may need to provide erosion protection and the ongoing maintenance of that protection, for buildings intended on sites adjacent to *Moving* Erosion Areas. Erosion protection requirements are additional to mitigating other flood hazard effects.

Individual buildings will be discouraged from siting in these locations because it may not be feasible to provide erosion protection for single houses. Considerations for new erosion protection include:

- Construction standards
- Who owns and operates the structures
- Who pays for ongoing maintenance and repair
- Providing ability to disperse ponded flood waters
- Providing for residual risk

Low to Moderate Risk Floodplain Areas

Mitigating Flood Hazard Effects

Developers and landowners protected by stopbanks will be encouraged to mitigate the effects of flooding from stopbank breaches or overtopping.

Subdivision

River Corridor and Higher Risk Floodplain Hazard Areas

Erosion Hazard Areas : Purpose is Constructing Habitable Buildings

Subdivision in erosion hazard areas for the purpose of constructing new habitable buildings will not be allowed.

Restrictions Outside Existing Zones

Subdividing land intended for uses outside existing zones will be non-complying, apart from minor boundary adjustments.

New Subdivision Discouraged

Subdivision will be strongly discouraged where the resulting uses expose people and assets to an increased flood hazard level.

Earthworks

River Corridor and Higher Risk Floodplain Hazard Areas

No Adverse Flood Hazard Effects Caused

Earthworks, including filling and excavation, will be required to avoid or mitigate adverse flood hazard effects.

The setback distance from *flood defences* the stopbank, volume, *dimensions and timing* of earthworks, *and the potential for cumulative effects*, will determine whether the effects are likely to be minor.

Hazardous Substances

River Corridor and Higher Risk Floodplain Hazard Areas

Existing Areas Zoned for Using Hazardous Substances

Securing Stored Substances: Stored hazardous substances must be secure in a 2300 cumec flood.

Additional Mitigation Encouraged

Developers and landowners will be given information on how they can mitigate the effects of a 2800 cumec flood.

New Associated Uses Discouraged

Intended new commercial and industrial land uses that require hazardous substances as a key part of their daily operations will be discouraged from siting in the River Corridor.

Critical Facilities

River Corridor

Healthcare Facilities and Emergency Services

New healthcare facilities and emergency services will not be established in the River Corridor.

Higher Risk Floodplain Hazard Areas

Healthcare Facilities and Emergency Services Managing Flood Effects

New in-patient healthcare facilities will be required to show they can operate services in a 2800 cumec flood.

New out-patient facilities and emergency services will be required to produce contingency plans detailing how they will manage a 2800 cumec flood.

Alternative Siting Encouraged

Alternative siting of healthcare facilities and emergency services away from higher risk floodplain areas will be encouraged.

Key Network Utilities Managing Flood Effects

Key network utility facilities will be required to ensure they can operate in a 2800 cumec flood. Alternative siting away from the River Corridor will be promoted.

Moderate and Lower Risk Floodplain Hazard Areas

Emergency Services, Healthcare Facilities and Network Utilities Managing Flood Effects

New and existing in-patient healthcare facilities will be required to show they can operate services in a 2800 cumec flood with breaches.

New and existing out-patient facilities and emergency services will be encouraged to produce contingency plans detailing how they will manage a 2800 cumec flood with breaches.

Capacity of New and Replaced Bridges

Passing the 2800 cumec Flood

New bridges *and their associated floodway areas* will be required to pass a 2800 cumec flood without adversely affecting any flood defences, or raising upstream flood levels. Akatarawa Bridge (Birchville) is excluded from the 2800 cumec requirement.

River Corridor Land Remaining in Public Ownership

Land should remain in public ownership enabling:

- flood hazard effects to be more easily managed
- land uses to be actively discouraged from siting in the River Corridor

Information on Property Titles

Tagging hazard information on new property titles

Hazard information will be tagged on new property titles where proposed structural works would not protect those properties from:

- an identified river erosion hazard²
- a 2300 flood affecting greenfield areas, or 1900 flood in existing developed areas

Tagging hazard information on new structures and additions

Where practical and feasible, hazard information will be tagged on existing titles where new buildings and major additions are constructed. Affected titles are those where proposed structural works would not protect those properties from:

- an identified river erosion hazard³
- a 2300 flood affecting greenfield areas, or 1900 flood in existing developed areas

Accessory structures and ancillary buildings will be excluded from these requirements.

² Uses sections 221(1) and 224(c) of the Resource Management Act 1991 to achieve this.

³ Uses sections 221(1) and 224(c) of the Resource Management Act 1991 to achieve this.

Voluntary Actions

Upper Catchment

- Monitoring and investigating vegetation clearance and soil excavation in the upper catchment
- Forwarding forestry development and harvesting notices to WRC
- Monitoring land use changes
- Monitoring rural subdivision
- Developing WRC policy affecting WRC upper catchment land
- Developing WRC policy to manage the flood risk in the upper catchment

River Corridor

- Provide information for a range of flood scenarios to support:
 - constructing ancillary structures and accessory buildings
 - constructing other buildings to the 2300 flood standard, and siting in alternative locations

Floodplain

- Provide information for a range of flood breach scenarios affecting moderate and lower risk areas to support:
 - constructing buildings to manage flooding effects, including ponding and flow
 - appropriate siting of emergency services
 - placing fill
- Providing information for the 2300 cumec flood affecting higher risk areas to support
 - constructing ancillary structures and accessory buildings to withstand flow effects
 - constructing habitable buildings to manage flood effects