



**DRAFT PROPOSED CHAPTER**

**CHAPTER 5**

**NATURAL HAZARDS**

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## Chapter 5 Natural Hazards (second Part)

**Contents** (amend to insert new rules 5.8.0, 5.8.4, 5.8.5, 5.8.6, 5.8.7, 5.8.8, 5.8.9, 5.8.11 and make consequential amendments to the numbering of existing rules 5.8.11, 5.8.12 and 5.8.13).

**Introduction** (continued from the Introduction included in Attachment A to Ms Janice Carter's Rebuttal Evidence)

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This chapter identifies areas susceptible to the risk of coastal hazards including coastal erosion and sea water inundation associated with storm events over the next 100 years in Christchurch and the urban settlements within Akaroa and Lyttelton harbours. Controls proposed for these areas distinguish between areas susceptible to coastal hazards in the next 50 years (to 2065) and over the next 50-100 years (i.e. beyond 2065 to 2115). More restrictive controls apply to new development in areas susceptible to coastal hazards in the next 50 years to avoid increasing the risk to people's safety, well-being and property. The future use of land in these areas will be considered through other strategies and programmes including the proposed Natural Hazards Strategy, proposed Resilience Strategy and the Land Drainage Recovery Programme which will inform future land use zoning and development options.

Less restrictive controls apply to areas susceptible to risk from coastal hazards in the period 50-100 years from now (i.e. beyond 2065 to 2115) to recognise the potential for improved technical information and for other strategies and programmes to address this risk over coming years. In all areas a combination of responses is likely including adaptive mechanisms, defensive structures including to protect critical infrastructure, and the migration of some communities from areas that cannot be defended.

Coastal Hazard Mitigation Works provide for works and structures designed to reduce the risk of coastal hazards in susceptible areas and include beach re-nourishment, dune replacement, sand fences, seawalls, groynes, gabions and revetments.

Within Christchurch city most of the areas susceptible to the risk of coastal hazards overlap with areas identified as Floor Level and Fill Management Areas where the main controls are requirements for raised floor heights on new buildings and additions to existing buildings.

Many areas within Christchurch City that are vulnerable to the risk of tsunami are urbanised. Technical information on areas at risk from tsunami has been used to ensure the intensification of activities such as housing, is avoided where the activity would increase the vulnerability of people, property and infrastructure. For these areas the Council implements its responsibilities under the Local Government Act 2002 and Civil Defence Emergency Management Act 2002 by providing warning sirens and evacuation plans to respond to the threat to people, their safety and well-being.

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**5.6 Policies for Coastal Hazards and Coastal Hazard Mitigation Works**

5.6.1 Reduce risk to people, property and infrastructure in areas affected by coastal hazards by:

- a. avoiding subdivision and development in areas likely to be subject to coastal erosion and sea water inundation over the next 50 years;
- b. controlling subdivision and development in areas potentially subject to coastal erosion and sea water inundation over the next 100 years.

5.6.2 Avoid coastal hazard mitigation works involving new physical structures unless:

- a. the coastal hazard risk cannot reasonably be avoided; and
- b. alternatives to physical works such as the relocation, removal or abandonment of existing structures are not practicable; and
- c. the works are effective and do not:
  - i. worsen any existing coastal hazard;
  - ii. transfer or increase the risk to other people or property including critical infrastructure;
  - iii. adversely affect the natural environment; and
  - iv. sites of cultural significance to Ngāi Tahu / Manawhenua.

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**5.8.0 How to use the rules**

5.8.0.1 The rules listed in this chapter apply to the activities listed in the Activity Status Tables and the Rules within the 5.8 Flood hazard rules, 5.9 Liquefactions rules., 5.10 Port Hills and Banks Peninsula slope instability rules, 5.11 Coastal Erosion and Coastal Inundation rules, 5.12 General procedures - Information requirements, 5.13 General procedure - compliance with other chapters and 5.14 Appendices.

5.8.0.2 The Activity Status Tables and Standards in the following Chapters shall be complied with (where relevant):

<b>4</b>	Papakainga;
<b>6</b>	General Rules and Procedures;
<b>7</b>	Transport;
<b>8</b>	Subdivision, Development and Earthworks;
<b>9</b>	Natural and Cultural Heritage;
<b>11</b>	Utilities, Energy and Infrastructure;
<b>12</b>	Hazardous Substances and Contaminated Land;
<b>14</b>	Residential;
<b>15</b>	Commercial;
<b>16</b>	Industrial;
<b>17</b>	Rural;
<b>18</b>	Open Space, Conservation and Recreation;
<b>19</b>	Coastal Environment; and
<b>21</b>	Specific Purpose.

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## **5.8.4 Rural Zones and Open Space Zones - Activities and earthworks in Floor Level and Fill Management Areas**

### **5.8.4.1 Permitted activities**

The activities listed in Rule 5.8.1.1 are permitted in all Rural Zones and Open Space Zones, where the activity is located in a Floor Level and Fill Management Area subject to compliance with:

1. activity status rules and any standards specified elsewhere in the Plan for that activity, and
2. the standards specified in this Rule 5.8.1.1.

### **5.8.4.2 Restricted discretionary activities**

The activities listed in Rule 5.8.1.2 are restricted discretionary activities in all Rural Zones and Open Space Zones where the activity is located in a Floor Level and Fill Management Area.

### **5.8.4.3 Discretionary, non-complying and prohibited activities**

**Note:** There are no discretionary, non-complying or prohibited activities in respect of Rule 5.8.4.

## **5.8.5 Repair of land used for residential purposes in Rural Zones and Open Space Zones damaged by earthquakes within a Floor Level and Fill Management Area (provisions previously introduced under s27 Canterbury Earthquake Recovery Act to the Operative Plan).**

### **5.8.5.1 Permitted activities**

The activities listed in Rule 5.8.2.1 are permitted activities in all Rural and Open Space Zones in Floor Level and Fill Management Areas, provided the activity:

1. complies with all of the activity specific standards set out in a to j in P1 and P2 in Rule 5.8.2.1.

### **5.8.5.2 Restricted discretionary activities**

The activities listed in Rule 5.8.2.2 are restricted discretionary activities in all Rural and Open Space Zones. Discretion to grant or decline consent or impose conditions is restricted to the matters for discretion identified in Rule 5.8.2.2.



### **5.8.5.3 Discretionary, non-complying and prohibited activities**

**Note:** There are no discretionary, non-complying or prohibited activities in respect of Rule 5.8.5.

### **5.8.5.4 Exemptions to Rules 5.8.5.1 and 5.8.5.2**

The exemptions to Rule 5.8.2.1 and Rule 5.8.2.2 listed in Rule 5.8.2.4 shall apply to Rule 5.8.5.1 and 5.8.5.2.

## **5.8.6 All Specific Purpose Zones - Activities and earthworks in Floor Level and Fill Management Areas**

### **5.8.6.1 Permitted activities**

The activities listed in Rule 5.8.2.1 are permitted activities in all Specific Purpose zones where the site is located in a Floor Level and Fill Management Area, subject to compliance with:

1. activity status rules and any standards specified elsewhere in the Plan for that activity, and
2. the standards specified in this Rule 5.8.2.1

### **5.8.6.2 Restricted discretionary activities**

The activities listed in Rule 5.8.2.2 are restricted discretionary activities in all Specific Purpose zones where the site is located in a Floor Level and Fill Management Area. Discretion to grant or decline consent or impose conditions is restricted to the matters for discretion identified in Rule 5.8.2.2.

### **5.8.6.3 Discretionary, non-complying and prohibited activities**

**Note:** There are no discretionary, non-complying or prohibited activities in respect of Rule 5.8.6.

## **5.8.7 All Rural zones - Activities and earthworks in Flood Ponding Management Areas**

### **5.8.7.1 Permitted activities**

The activities listed below are permitted activities in all Rural zones where the activity, is located in a flood ponding management area shown on the planning maps subject to compliance with:

1. activity status rules and any standards specified elsewhere in the Plan for that activity, and
2. the standards specified in this Rule 5.8.7.1.

Activity		Activity specific standards
P1	Filling or excavation associated with the maintenance of flood protection and bank erosion protection works; and the maintenance of existing drains or ponds.	a. Nil
P2	Filling or excavation associated with utilities, or the replacement, repair or maintenance of existing utilities.	a. Nil
P3	Filling or excavation for post holes for fences, planting holes, and excavation for approved wells.	a. Nil
P4	Filling or excavation for the maintenance of existing farm tracks and farm yards, or the establishment of new farm tracks and farm yards.	a. Finished ground level shall be maintained to within 200mm of the natural ground level.
P5	Application of fertiliser, lime or other plant growth enhancers such as top soil, bark and trace elements.	a. Finished ground level shall be maintained to within 200mm of the natural ground level, and b. Filling is limited to a total volume of not more than 100m <sup>3</sup> per ha.
P6	Filling or excavation for the purposes of establishing and maintaining accessways to a residential unit.	a. Finished ground level shall be maintained to within 200mm of the natural ground level, and b. Accessways shall be constructed so as not to impede the flow of surface water.
P7	Filling or excavation for the purposes of landscaping around a residential unit in association with domestic gardening.	a. The maximum volume of <u>filling</u> shall be 20m <sup>3</sup> per site and a maximum volume of filling of 100m <sup>2</sup> per site within any continuous period of 10 years.
P8	Filling and excavation for the maintenance or upgrade of existing roads on legal road.	a. The works shall not impede the flow of surface water.
P9	Any other filling.	a. Either the maximum depth of filling shall be 200mm, and b. The maximum volume of <u>filling</u> shall be 100m <sup>3</sup> per site within any continuous period of 10 years, and c. Finished ground level shall not exceed the surrounding land; or

		d. The filling has consent approval.
<b>P10</b>	Any other excavation for farm purposes	a. The excavated area is subsequently filled within the following year so that there is no net affect on flood storage.
For filling or excavation of land (before 31 December 2018) for repair of land used for residential purposes and damaged by earthquakes, see Rule 5.8.5.		

### 5.8.7.2 Restricted discretionary activities

The activities listed below are restricted discretionary activities in all rural zones where the activity is located in a flood ponding area as shown on the planning maps.

Activity		The Council's discretion shall be limited to the following matters:
RD1	<p>Filling, up to a total area of 1000m<sup>2</sup> for the purposes of developing a residential unit and any associated accessory buildings, outdoor living and service areas and vehicular access</p> <p>Any application arising from this rule will not require written approvals and shall not be publicly or limited notified.</p>	<p>Matters below are from operative plan and to be reviewed</p> <p>a. The likely effects of proposed filling, or excavation on the functioning of the ponding area or floodplain during flood periods including any compensatory storage proposed.</p> <p>b. Any potential impacts of excavation or filling on the rate, level or volume of flood discharges to the Avon, Heathcote and Styx Rivers and their tributary streams and margins</p>
RD2	<p>Filling and excavation within Henderson Basin for the creation and enhancement of waterbodies, wetlands or public accessways associated with the recreation values of the waterways or wetlands within the Basin.</p>	<p>c. Any adverse effects on the natural qualities, amenity values or ecology of waterways and wetland areas</p>
RD3	<p>Filling and excavation for any utilities not provided for by P2 of Rule 5.8.7.1.</p>	<p>d. In respect to the Lower Styx Ponding Area, any adverse effects likely on land as a result of tidal influences during flood periods including the potential for exacerbation of those effects with potential sea level rise</p>

		<p>e. Any adverse effects on access for maintenance or flood protection works.</p> <p>f. The effectiveness and environmental impact of any measures that may be proposed to mitigate the effects of filling or excavation.</p> <p>g. Any beneficial effects, including the provision of public access, or the enhancement of the natural qualities, amenity values or ecology of waterways and wetland areas.</p>
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**5.8.7.3 Discretionary and prohibited activities**

**Note:** There are no discretionary or prohibited activities in respect of Rule 5.8.7.

**5.8.7.4 Non-complying activities**

<b>Activity</b>	
NC1	Any filling or excavation activity listed in 5.8.7.1 that does not comply with the Activity Specific Standards, or any filling or excavation activity not listed in 5.8.7.1 or 5.8.7.2, unless otherwise specified in the District Plan as a permitted, restricted discretionary, discretionary, or prohibited activity.

**5.8.8 Waimakariri Stopbank Floodplain Management Area - Activities and earthworks**

**5.8.8.1 Permitted activities**

The activities listed below are permitted activities where the activity, is located within the Waimakariri Stopbank Floodplain Management Area shown on the planning maps subject to compliance with:

1. activity status rules and any standards specified elsewhere in the Plan for that activity, and
2. the standards specified in this Rule 5.8.8.1.



Activity		Activity specific standards
<b>P1</b>	Additions to existing buildings that do not increase the ground floor area of the building.	a. Nil
<b>P2</b>	Additions to existing buildings.	a. The addition to an existing building shall not increase the ground floor area of the existing building by more than 25m <sup>2</sup> within any continuous period of 10 years with the exception of activities provided for in P3 of Rule 5.8.8.1
<b>P3</b>	Garages and any other accessory buildings.	a. The maximum area of any garage or other accessory building shall be no greater than 200m <sup>2</sup> in Rural Zones and Open Space Zones.
<b>P4</b>	Decks, swimming pools and unenclosed buildings without floors.	a. Nil
<b>P5</b>	<u>Filling</u> or <u>excavation</u> associated with the maintenance of flood protection and bank erosion protection works; and the maintenance of existing drains or ponds.	a. Nil
<b>P6</b>	<u>Filling</u> or <u>excavation</u> associated with utilities, or the replacement, repair or maintenance of existing utilities.	a. Nil
<b>P7</b>	Filling or excavation for post holes for fences and shade cloth structures and tunnel houses, planting holes, and excavation for approved wells.	a. Nil
<b>P8</b>	Filling or excavation for the maintenance of existing farm tracks and farm yards, or the establishment of new farm tracks and farm yards.	a. Finished ground level shall be maintained to within 200mm of the natural ground level.
<b>P9</b>	Application of fertiliser, lime or other plant growth enhancers such as top soil, bark and trace	a. Nil.

	elements.	
P10	Filling or excavation for the purposes of establishing and maintaining accessways to a residential unit.	<ul style="list-style-type: none"> <li>a. Finished ground level shall be maintained to within 200mm of the natural ground level, and</li> <li>b. Accessways shall be constructed so as not to impede the flow of surface water.</li> </ul>
P11	Filling for the purposes of landscaping around a residential unit in association with domestic gardening.	<ul style="list-style-type: none"> <li>a. The maximum volume of <u>filling</u> shall be 10m<sup>3</sup> per site in each case within any continuous period of 10 years.</li> </ul>
P12	Filling or excavation for the maintenance or upgrade of existing roads on legal road.	<ul style="list-style-type: none"> <li>a. The works shall not impede the flow of surface water.</li> </ul>
P13	Any other filling.	<ul style="list-style-type: none"> <li>a. Either the maximum depth of filling shall be 200mm, and</li> <li>b. The maximum volume of <u>filling</u> shall be 100m<sup>3</sup> per site, and</li> <li>c. The filling shall not impede the flow of surface water; or</li> <li>d. The filling has consent approval.</li> </ul>
P14	Any other excavation for farm purposes.	<ul style="list-style-type: none"> <li>a. The excavated area is subsequently filled within the following year so that there is no net affect on flood storage.</li> </ul>
<p>For filling or excavation of land (before 31 December 2018) for repair of land used for residential purposes and damaged by earthquakes, see Rule 5.8.5.</p>		

### 5.8.8.2 Restricted Discretionary Activities

The activities listed below are restricted discretionary activities where the activity, is located within the Waimakariri Stopbank Floodplain Management Area shown on the planning maps.

Activity		The Council's discretion shall be limited to the following matters:
RD1	New buildings not located within the 100m wide primary stopbank setback as shown on the Planning Maps and not permitted by P1, P2 or P3 set out in Rule 5.8.8.1.	<ul style="list-style-type: none"> <li>a. The likely effects of proposed filling, excavation and/or building on the functioning of the Waimakariri River stopbank floodplain during and after flood events, including any likelihood of work undertaken exacerbating inundation, erosion, alluvion or avulsion</li> </ul>
RD2	New buildings not located within the <b>High Flood Hazard Management Area</b> shown on	

	<p>the Planning Maps and not permitted by P1, P2 or P3 set out in Rule 5.8.8.1.</p>	<p>whether upstream or downstream of the site.</p>
<p>RD3</p>	<p>New buildings or new accessory buildings or additions to any accessory building not located within the 50m wide secondary stopbank setback as shown on the Planning Maps and not permitted by P1, P2, P3 or P4 set out in Rule 5.8.7.1. Any application arising from this rule will not require written approvals and shall not be publicly or limited notified.</p>	<p>b. The frequency at which the building or addition is predicted to be inundated by floodwaters and the extent of damage that is likely to occur in such an event.</p> <p>c. Whether the floor level of any new building/building addition is above the predicted 0.5% Annual Exceedence Probability (AEP) or 1 in 200 year flood event level with a stopbank breach plus an allowance for freeboard not exceeding 400mm.</p>
<p>RD4</p>	<p>Filling or excavation within 50m of the secondary stopbank as shown on the planning maps.</p>	<p>d. Whether the integrity and/or function of either the Primary or Secondary stopbanks will be adversely affected by the method to achieve the floor level set out in (c).</p> <p>e. Where relevant, any adverse effects likely on land as a result of tidal influences during flood periods including the potential for exacerbation of those effects with potential sea level rise.</p> <p>f. The way in which any building is sited and constructed and its intended use</p> <p>g. Any adverse effects on access for maintenance of flood protection works</p> <p>h. The effectiveness and environmental impact of any measures that may be proposed to mitigate the effects of filling, excavation or building</p> <p>i. The extent to which other properties will be adversely affected as a result of disturbances to surface drainage patterns.</p> <p>j. Any benefits associated with</p>

		<p>flood management, including the provision of public access, or the enhancement of the natural qualities, amenity values or ecology of waterways and wetland area.</p> <p>k. The extent to which development could result in surface water ponding in the event of flooding, and hence and increased risk of birdstrike.</p>
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**5.8.8.3 Discretionary or prohibited activities.**

Note: There are no discretionary or prohibited activities in respect of Rule 5.8.8.

**5.8.8.4 Non-complying activities**

The activities listed below are non-complying activities where the activity, is located within the Waimakariri Stopbank Floodplain Management Area shown on the planning maps.

<b>Activity</b>	
NC1	New buildings or additions to existing buildings located within the 100m wide primary stopbank setback as shown on the Planning Maps.
NC2	New buildings or new accessory buildings or additions to any accessory building located within the 50m wide secondary stopbank setback as shown on the Planning Maps.
NC3	Filling or excavation within the 100m wide primary stopbank setback as shown on the Planning Maps.

**5.8.8.4 Exemptions to Rules 5.8.8.1, 5.8.8.2 and 5.8.8.3**

The following are exemptions from Rules 5.8.8.1, 5.8.8.2 and 5.8.8.3:

- a. activities within the Clearwater Golf Resort because Rule 21.9.2.5.2 Flood Protection - Clearwater Golf Resort within the Specific Purposes (Golf Resort) Zone makes provision for ground levels and building floor levels; and
- b. excavation in the Rural Quarry (McLeans Island) Zone, where no excavation shall cut below a surface with a gradient of 3 (horizontal) to 1 (vertical) measure from a point commencing 10 metres

from the toe of any existing or consented stopbank (see Appendix 5.8.10.4.1 Gradient for Excavation Near Stopbank).

## 5.8.9 High Flood Hazard Management Areas - Activities and earthworks

### 5.8.9.1 Permitted activities, restricted discretionary, discretionary or prohibited activities.

Note: There are no permitted, restricted discretionary, discretionary, or prohibited activities in respect of Rule 5.8.9

### 5.8.9.2 Non-complying activities

The activities listed below are non-complying activities where the activity is located within High Flood Hazard Management Areas shown on the planning maps.

Activity	
NC1	Any subdivision which creates an additional vacant allotment or allotments.
NC2	New buildings within a High Flood Hazard Management Area as shown on the Planning Maps.

## 5.8.10 Te Waihora / Lake Ellesmere and Te Wairewa / Lake Forsyth Flood Management Areas - Activities and earthworks

### 5.8.10.1 Permitted activities

The activities listed below are permitted activities where the activity, is located within the Te Waihora / Lake Ellesmere and Te Wairewa / Lake Forsyth Flood Management Areas shown on the planning maps subject to compliance with:

1. activity status rules and any standards specified elsewhere in the Plan for that activity, and
2. the standards specified in this Rule 5.8.10.1

Activity		Activity specific standards
<b>P1</b>	New buildings and additions to existing buildings on sites within Te Waihora / Lake	a. The minimum floor level shall be no less than 3.0 m above mean sea level.

	Ellesmere Flood Management Area.	
<b>P2</b>	New buildings and additions to existing buildings on sites within the Te Wairewa / Lake Forsyth Flood Management Area.	a. The minimum floor level shall be no less than 5.68 m above mean sea level <b>To be completed: minimum floor level heights under review.</b>
<b>P3</b>	Additions to existing buildings that do not increase the ground floor area of the building.	a. Nil.
<b>P4</b>	Additions which do not increase the ground floor area of an existing building by more than 25m <sup>2</sup> within any continuous 10 years.	a. Nil.
<b>P5</b>	Garages of 40m <sup>2</sup> or less in area, accessory buildings which are no more than 200m <sup>2</sup> in area, and other accessory buildings without floors.	a. Nil.
<b>P6</b>	Decks, swimming pools, and unenclosed buildings without floors.	a. Nil.
<b>P7</b>	Utilities and LPG storage tanks.	a. Nil.
<b>P8</b>	<u>Filling</u> or excavation for residential building platforms only to the extent necessary to achieve the minimum floor levels specified for P1 and P2 in Rule 5.8.10.1 for new buildings.	a. Nil.
<b>P9</b>	<u>Filling</u> or excavation associated with the maintenance of flood protection and bank erosion protection works; and the maintenance of existing drains or ponds.	a. Nil.
<b>P10</b>	<u>Filling</u> or excavation associated	a. Nil.

	with utilities, or the replacement, repair or maintenance of existing utilities.	
P11	<u>Other filling or excavation.</u>	<p>a. A maximum height of 0.3m of fill above ground and 0.6m depth of excavation below ground; and</p> <p>b. A maximum volume of <u>filling</u> above ground level of 20m<sup>3</sup> per site, and a maximum cumulative volume of <u>filling</u> and excavation of 50m<sup>3</sup> per site, in each case within any continuous period of 10 years.</p>

With regard to P1 and P2, irrespective of anything to the contrary in this Plan, recession plane breaches created directly by the need to raise floor levels to meet the minimum floor level standards set in Rule 5.8.8.1 are exempt from compliance with:

- Residential Small Settlement Zone Rule 14.15.3.5 Daylight recession planes.

Recession plane breaches in excess of those created by the need to raise floor levels are not exempt from these rules.

Note: For filling or excavation (before 31 December 2018) for repair of land used for residential purposes and damaged by earthquakes, see Rule 5.8.5.

### 5.8.10.2 Restricted discretionary activities

The activities listed below are restricted discretionary activities where the activity, is located within the Te Waihora / Lake Ellesmere and Te Wairewa / Lake Forsyth Flood Management Areas shown on the planning maps.

Activity		The Council's discretion shall be limited to the following matters:
RD1	<p>New buildings located within the Te Waihora / Lake Ellesmere Flood Management area which do not meet the standards set out in P1 under Rule 5.8.10.1 and are not permitted by P3, P4, P5 or P6 in Rule 5.8.10.1.</p> <p>Any application arising from</p>	<p>a. The setting of the minimum floor level of the building and/or addition. <b>Note: Where the applicant accepts the minimum floor level provided by Council, no further matters need to be considered. Otherwise, the following matters will be considered.</b></p> <p>b. The frequency at which any proposed building or addition is predicted to be flooded and the extent of damage likely to occur in such an</p>

	<p>this rule will not require written approvals and shall not be publicly or limited notified.</p>	<p>event.</p>
RD2	<p>New buildings located within Te Wairewa / Lake Forsyth Flood Management area which do not meet the standards set out in P2 under Rule 5.8.10.1 and are not permitted by P3, P4, P5 or P6 in Rule 5.8.10.1.</p> <p>Any application arising from this rule will not require written approvals and shall not be publicly or limited notified.</p>	<p>c. Any proposed mitigation measures, and their effectiveness and environmental impact, including any benefits associated with flood management.</p> <p>d. Any adverse effects of the scale and nature of the building and its location in relation to neighbouring buildings, including effects on the privacy of neighbouring properties as a result of the difference between minimum and proposed floor levels, and effects on streetscape.</p>
RD3	<p>Additions to existing buildings, which do not comply with Rule 5.8.10.1 P1 or Rule 5.8.10.1 P2 and are not permitted by P4, P5 or P6 set out in Rule 5.8.10.1.</p> <p>Any application arising from this rule will not require written approvals and shall not be publicly or limited notified.</p>	
RD4	<p><u>Filling</u> or excavation which is not a permitted activity under P8, P9 or P10 set out in Rule 5.8.4.1, or <u>filling</u> or excavation that exceeds the standards in P11 set out in Rule 5.8.4.1.</p>	<p>a. The effects of <u>filling</u> or excavation on flooding, waterways, groundwater and natural ground levels on and/or off site, including:</p> <ul style="list-style-type: none"> <li>i. Any likelihood of exacerbation of flooding, erosion, or siltation either upstream or downstream of the site.</li> <li>ii. Any adverse effects on other properties from disturbances to surface drainage patterns.</li> <li>iii. Effects on flood storage capacity and function in the immediate area, and any wider effects on the flood storage in the catchment including any compensatory storage proposed; and any effects on existing stormwater and flood protection works.</li> <li>iv. Any implications for groundwater and the water table, on or off site.</li> </ul>



		<ul style="list-style-type: none"> <li>v. Any benefits associated with flood management.</li> <li>b. Any proposed mitigation measures, and their effectiveness and environmental impact.</li> <li>c. The effects of the scale and nature of the <u>filling</u> or excavation, and location in relation to neighbouring sites, including:             <ul style="list-style-type: none"> <li>i. Effects on privacy of neighbouring properties and effects on streetscape.</li> <li>ii. The stability of adjoining land, and its susceptibility to subsidence or erosion upon excavation or <u>filling</u> taking place.</li> </ul> </li> <li>d. Effects on access, character, ecology and amenity, and on sites of archaeological and cultural value, including:             <ul style="list-style-type: none"> <li>i. Any adverse effects or benefits for public access, natural character, or ecology of waterways and wetland areas.</li> <li>ii. Any adverse effects on amenity values including dust nuisance, visual impact, noise, vibration and traffic associated with the <u>filling</u> or excavation.</li> <li>iii. Effects on sites of archaeological value including consideration of the need to impose an Accidental Discovery Protocol.</li> </ul> </li> </ul>
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**5.8.10.3 Discretionary, non-complying and prohibited activities**

Note: There are no discretionary, non-complying or prohibited activities in respect of Rule 5.8.10.

**Advice Note:** Refer to Rule 5.8.9.2 High Flood Hazard Management Areas (not within the Waimakariri Flood Plain) for non-complying activities.

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**5.10.1 Activity status for Port Hills and Banks Peninsula Slope Instability Management Areas**

**Explanatory notes:**

1. the text in the column headed "Remainder of Port Hills and Banks Peninsula Slope Instability Management Area" amends the text worded "PHASE 2 REVIEW" in the Stage 1 Natural Hazards Proposal; and
2. the # is to be replaced by the appropriate numbering.

<b>Slope Instability Management Areas</b>		
<b>Activity</b>	<b>Remainder of Port Hills and Banks Peninsula Slope Instability Management Area</b>	
Key: P = Permitted; RD = Restricted Discretionary; D = Discretionary; NC = Non-complying; PR = Prohibited		
a		
b	Earthworks except as provided in activities c, d, f, g, h, i and j in Rule 5.10.1.	D#
c		
d		
e		
f		
g	Upgrading of existing infrastructure or development of new infrastructure (where there is a functional need to locate in the overlay), including earthworks associated with these works.	D#
h		
i	Signage and fencing for warning or excluding the public including post holes associated with those works.	P#
j		
k	Recreation activities within parks and reserves and associated park management and maintenance activities, including grazing and track repair.	P#
l	Farm buildings and farm tracks, including earthworks associated with these works.	RD#
m	Any building or structure not listed in activities a to g of Rule 5.10.1.	D#
n	Any other activity not otherwise listed in this table.	D#

**Explanatory Note:** consequential amendments are required to the subheadings for Rules 5.10.2, 5.10.3 and 5.10.4 to update the rule numbers denoted by # to correspond with the numbers of the rules listed above.

## 5.11 Coastal Erosion and Coastal Inundation rules

**Explanatory Note:** consequential amendments are required to the numbering of existing rules 5.11- 5.13 to reflect the insertion of new rule 5.11.

### 5.11.1 Activity Status for Coastal Erosion Management Areas and Coastal Inundation Management Areas

The activities listed below have the activity status listed within each Coastal Erosion Management Area and Coastal Inundation Management Area and are subject to compliance with any standards specified elsewhere in the Plan for that activity.

For all resource consent applications under Rule 5.11.1 an assessment is required to be undertaken by Chartered Professional Engineer with experience in coastal hazard mitigation engineering or a Professional Engineering Geologist (IPENZ registered). Assessments must provide the relevant information set out in Clauses 5.11.2, 5.11.3 and 5.11.4 for resource consent applications in coastal hazard management areas and address the relevant assessment matters.

The design of coastal hazard mitigation works must be carried out by a Chartered Professional Engineer with specific experience in the investigation, design and/or construction of coastal hazard mitigation works, who has registered with the Christchurch City Council.

**Explanatory Note:** where Coastal Erosion Management Areas and Coastal Inundation Management Areas overlap with any Management Area within Rule 5.8 Flood Hazard rules, the most restrictive rule shall apply.

		Coastal Hazard Management Areas			
		Coastal Erosion Management Area 1	Coastal Erosion Management Area 2	Coastal Inundation Management Area 1	Coastal Inundation Management Area 2
<b>Activity</b>		Key: P = Permitted; RD = Restricted Discretionary; D = Discretionary; NC = Non-complying; PR = Prohibited			
a	Any subdivision which creates an additional vacant allotment or allotments.	NC1	RD1	NC2	RD2
b	New buildings	NC3	RD3	NC4	RD4
c	Coastal hazard mitigation works including earthworks associated with these works.	D1	D2	D3	D4

d	Repair and maintenance of infrastructure including earthworks associated with these works.	P1	P2	P3	P4
e	Upgrading of existing infrastructure or development of new infrastructure (where there is a functional need to locate in the overlay), including earthworks associated with these works.	D5	D6	D7	D8

Any resource consent application arising from RD1, RD2, RD3 and RD4 set out in Rule 5.11.1 above will not require written approvals and shall not be publicly or limited notified.

**5.11.2 Coastal Erosion Management Area 2 and Coastal Inundation Management Area 2 – matters of discretion for subdivision resource consent applications RD1 (restricted discretionary activity 1) and RD2 (restricted discretionary activity 2) in Rule 5.11.1.**

- a. Where subdivision is listed in Rule 5.11.1 as a restricted discretionary activity, it will be assessed against the relevant assessment matters below:
  - i. The nature, extent and implications of coastal hazards relevant to the site.
  - ii. The frequency at which the site is likely to be damaged and/or inundated by coastal hazards and the extent of damage likely to occur.
  - iii. The ability of the site to accommodate specific, stable, accessible and serviceable building platforms and access to each.
  - iv. Whether alternative building platforms have been identified and their suitability for development.
  - v. The nature of any existing or proposed earthworks, their engineering design, and any effects on the vulnerability of the site and adjacent sites to coastal hazards.
  - vi. The implications of any proposed mitigation measures including coastal hazard mitigation works for the risk from coastal hazards to the site and adjoining sites, their effectiveness and whether they will lower risk to an acceptable level.
  - vii. Effects of development on surface and subsurface drainage patterns and stormwater management.



- viii. The adequacy of drainage and sediment control measures; for example, the extent to which the works will retain excavations as soon as possible, drain stormwater into an approved stormwater system, and when excavating, be undertaken outside of periods of water saturation.
- ix. The extent to which the works will lead to removal of vegetation, topsoil or sand, modification of ecosystems, or adversely affect the natural character of the coast, or create adverse landscape or visual effects.
- x. The extent to which the activity or works would impact on public access, where available, historical or cultural heritage or sites of cultural significance to Ngāi Tahu / Manawhenua.

**5.11.3 Coastal Erosion Management Area 2 and Coastal Inundation Management Area 2 - matters of discretion for land use consent applications RD3 (restricted discretionary activity 3) and RD4 (restricted discretionary activity 4) in Rule 5.11.1.**

- a. The Council's discretion shall be limited to the following matters:
  - i. The nature and extent of the coastal hazard and the associated risks posed to use and development, both on and off site.
  - ii. The nature and scale of any existing or proposed development, including engineering works, and its design, effects and levels of risk.
  - iii. Any coastal hazard mitigation works proposed, the effects on levels of risk and proposed monitoring procedures.
  - iv. The nature and extent of any design features that facilitate future relocation of the proposed building e.g. building and foundation design.
  - v. The visual impact of any proposed building or any associated earthworks or coastal hazard mitigation works.
  - vi. Drainage and sediment control measures, both during and after the development.
  - vii. The setting of the minimum floor level for any building above a 0.5 % AEP inundation event where Rules 5.8.1, 5.8.3, 5.8.4 and 5.8.6 do not apply.
  - viii. The frequency at which any proposed building or structure is predicted to be inundated and damaged and the extent of damage likely to occur in such an event.

**5.11.4 Coastal Erosion Management Areas 1 and 2 and Coastal Inundation Management Areas 1 and 2 – assessment matters for land use resource consent applications D1 (discretionary activity 1), to D8 (discretionary activity 8) in Rule 5.11.1.**

- a. The land use activities listed in Rule 5.11.1 as discretionary activities will be assessed against the relevant assessment matters below, together with other matters specified in section 104 of the Resource Management Act 1991.
  - i. The risk to life, property and the environment posed by the coastal hazard, either on the site of the activity, or elsewhere such as on adjacent sites.



- ii. The extent to which the activity and/or conditions on the activity, would enable the risk from coastal hazards, either on site or elsewhere, to be reduced.
- iii. The suitability of the site for the activity proposed and whether alternative sites have been considered.
- iv. Whether alternatives to physical works such as the relocation, removal or abandonment of existing structures have been considered.
- v. Whether or not the activity would be carried out under the supervision of either a Chartered Professional Engineer with experience in coastal hazards mitigation engineering or a Professional Engineering Geologist (IPENZ registered).
- vi. For coastal hazard mitigation works, whether the works:
  - A. can be shown, based on evaluation by a Chartered Professional Engineer with experience in coastal hazards mitigation, using best practice methods, to increase the stability of land and/or protect structures and buildings and their occupants;
  - B. can be shown, based on evaluation by a Chartered Professional Engineer with experience in coastal hazards mitigation, using best practice methods, to reduce risk from coastal hazards to people, property and infrastructure either on site or elsewhere; and
  - C. will have appropriate monitoring procedures applied, with inspections and maintenance undertaken and reported to the Council.
- vii. The extent to which the activity or works will lead to removal of vegetation or topsoil or sand, or modification of ecosystems or natural character, or adverse landscape and visual effects.
- viii. The extent to which the activity or works would impact on public access, where available, or historical or cultural heritage or sites of cultural significance to Ngāi Tahu / Manawhenua.
- ix. The nature and extent of any design features that facilitate future relocation of the building or structure.
- x. The social, economic, or cultural benefit to the community it serves, whether there is a functional or operational requirement for such a location and whether there are any practical alternatives.

## 5.14 Appendices to Rule 5.8

### 5.14.3 Gradient for Excavation near Stopbank -

To be completed - diagram from operative district plan to be linked - see TRIM 15/366025.

## Chapter 2 - Definitions

### Coastal hazard mitigation works

means works and structures designed to prevent or mitigate coastal hazards, such as coastal erosion and seawater inundation, including beach re-nourishment, dune replacement, sand fences, seawalls, groyne, gabions and revetments.

Gradient for Excavation Near Stopbanks

