Decision Report Plan Change 74 – Coastal Hazards

1.0 Introduction

- **1.1** This report shows the decisions made on the topics in the Planning Report and then shows the whole of the Plan Change i.e. how the full notified Plan Change and subsequent decisions on topics are proposed to change the District Plan First Review.
- **1.2** For topics, any changes to rules are shown as follows; existing District Plan text in black, proposed changes as included in the Section 32 Report in <u>red</u>, and any changes resulting from decisions in <u>blue</u>.
- **1.3** For the whole of the Plan Change, any changes to rules are shown as follows; existing District Plan text in black, and changes (being the culmination of the notified Plan Change and subsequent decisions) in <u>red</u>.

2.0 Topic 1: General support/opposition and whether to proceed or not with the Plan Change

2.1 Decision

2.1.1 That the District Plan Committee proceeds with the Plan Change subject to any recommended changes in the topics to follow.

The following submissions are therefore:

Accepted

Submission	Point Number	Name
19	1	Bay of Plenty Regional Council
FS31	1, 2, 3, 4, 5	Bay of Plenty Regional Council
6	1	Longdill, Peter

Accepted in Part

Submission	Point Number	Name
2	1	Lovell, Alastair
1	1	Lovell, Warwick
20	1	Powerco

Rejected

Submission	Point Number	Name
26	1	Hall, Geoff
24	1	Hall, Josephine
22	1	Hope, Robert and Susan
11	1	Lloyd, Natalie
5	1	Mahar, Judith
25	1	Mander, Kenneth
21	1	Pukehina Beach Ratepayers Association
15	1	Treloar, Judy
8	1	Vernon, Gordon
27	1	Wallace, Gavin

2.2 Reasons for Decision

- **2.2.1** Council now has up-to-date research available on the areas at Waihi Beach and Pukehina that are susceptible to coastal hazards over the next 100 years. Council would be negligent to overlook this research.
- **2.2.2** Proceeding with the Plan Change allows Council to keep the District Plan updated and give effect to the NZCPS.
- **2.2.3** It will also correctly inform landowners and buyers of which land is at risk and help them prepare for the possible impacts of coastal hazards.
- **2.2.4** Tonkin & Taylor's re-assessment for Council relies on the latest scientific information available on sea level rise and a proven methodology based on current best practice. They were selected by open tender to undertake the review based on their high level of relevant experience and proven track record in preparing similar coastal hazard assessments for other district councils.
- **2.2.5** The Committee notes that the current review has given coastal erosion lines similar to those produced in 1993. This has occurred notwithstanding higher sea level rise estimates than previously. It has been achieved by the use of advanced statistical methods that are more accurate and which reduce the more conservative outcomes previously resulting from coastal erosion hazard zone assessments.
- **2.2.6** The Committee understands some submitters' concerns around the extent of sea level rise and notes the response to these concerns from Council's technical expert. The Committee concurs that if the current sea level rise projections are reduced through other actions then this should be picked up by future coastal hazard assessments and the coastal hazard mapping in the District Plan be modified accordingly.

- **2.2.7** The Plan Change has been prepared in accordance with relevant legislation.
- **2.2.8** Although Change 2 to the Bay of Plenty Regional Policy Statement now requires a risk management approach for the identification of natural hazards (including identifying areas of high, medium and low risk), Plan Change 74 was commenced prior to Change 2 being notified and Plan Change 74 was notified prior to decisions being released on Change 2. There is an agreement between Council and the Bay of Plenty Regional Council that Plan Change 74 can proceed without giving effect to Change 2 because of this. However, all natural hazard assessments in the future will need to be undertaken in accordance with Change 2.
- **2.2.9** The government announced in August 2015 that they would be developing national policy statements for a number of topics including natural hazards. However, the topic of natural hazards is currently the lowest on the list of priorities and is given an indicative completion date of 2018. There is also no certainty that it will be completed by then. It is also unknown what specific guidance will be provided and whether it would change the outcome of Tonkin & Taylor's re-assessment. Council began the process for the coastal protection areas review in early 2014 and Tonkin & Taylor's re-assessment had already been completed and consulted on before the announcement was made. Until the national policy statement is in force, councils can continue to address hazards under existing guidance.
- **2.2.10** Council's process for making the changes has been as fair as possible. There was a long consultation period where all relevant information was readily available and sufficient time was allowed for understanding the changes, talking with Council staff and making a submission. Letters were sent to landowners informing them prior to the commencement of the review (September 2014), the public open days (May 2015) and the notification of the Plan Change (October 2015).
- **2.2.11** While the Plan Change is not focused on preventing coastal hazards, it does not in any way prevent Council from continuing to deploy preventative measures at the same time.
- **2.2.12** The Section 32 Report has identified the actual and potential effects on landowners and the wider community. There is nothing to indicate that the proposal will be a significant financial burden for landowners or the wider community, as is the case with the similar existing approach in the District Plan. No evidence has been provided by submitters to support concerns relating to economic effects or to support claims that they will be unable to get insurance and that their property values will be negatively affected.

2.2.13 While not proceeding with a Plan Change at this stage may alleviate the concerns that existing landowners hold for the short term, it ignores the impacts that existing or future landowners may face in the long term which will be more significant.

3.0 Topic 2: Naming of the Coastal Hazards

3.1 Decision

3.1.1 That the explanatory note in Section 8 - Natural Hazards is amended as follows:

"Areas considered most at risk from coastal erosion and <u>coastal</u> inundation are those already developed for urban purposes and which adjoin the open coastline (e.g. Waihi Beach (including Bowentown) and Pukehina). The<u>se</u> stretches of coastline concerned have been the subject of a detailed study commissioned by *Council* to identify land at risk to these coastal hazards over 0-50 and 50-100 years. The study findings are reflected in that land identified on the District Plan Maps as being within the 'Coastal Protection Area' through the identification of 'Coastal Erosion Areas' and 'Coastal Inundation <u>Areas'</u>.

The Coastal Erosion Areas have been divided into primary risk and secondary risk based on 0-50 year and 50-100 year risk timeframes with more restrictive rules applying in the primary risk area. The Coastal Inundation Areas have not been divided into risk timeframes because the same restrictions apply within both. There is also a 'Coastal Erosion Area – Rural' in place for rural zoned areas adjoining the open coastline e.g. Matakana Island, Maketu and east of Pukehina."

3.1.2 That the legend is corrected to rename the hazards as proposed by the Plan Change as follows:

Coastal Protection Erosion Area – Primary Risk Coastal Protection Erosion Area – Secondary Risk Coastal Protection Erosion Area – Access Yard Coastal Protection Erosion Area – Open Coastline Rural Coastal Protection Inundation Area – Inundation

The following submissions are therefore:

Accepted in Part

Submission	Point Number	Name
2	17	Lovell, Alistair
1	17	Lovell, Warwick

Rejected

Submission	Point Number	Name
27	2	Wallace, Gavin

3.2 Reasons for Decision

- **3.2.1** The name coastal protection area has not been re-used because it does not clearly identify the hazards plus also implies that the District Plan is seeking to prevent coastal erosion and coastal inundation from occurring which is not the case. The name coastal erosion area removes both of these problems with respect to coastal erosion. It is also unlikely to create an alarmist scenario or have a very adverse effect on economic well-being as most people understand that coastal erosion is generally a long term process.
- **3.2.2** Changes to the explanatory statement have been recommended to explain why the coastal erosion areas have been divided into primary risk and secondary risk (because more restrictive rules will apply within the primary risk).

4.0 Topic 3: Coastal Erosion Area Maps

4.1 Decision

- **4.1.1** That the coastal erosion areas shown on the District Plan maps are retained as notified except for corrections to how the primary and secondary risk lines are shown which will reduce the amount of land affected by the coastal erosion areas.
- **4.1.2** That the following footnotes be added to the map legend to explain where the coastal erosion areas (primary and secondary risk) are measured from.
 - Primary risk includes the whole of the red line and the land towards the sea
 - Secondary risk includes the whole of the green line and the land up to the edge of the red line

The following submissions are therefore:

Accepted

Submission	Point Number	Name
19	2	Bay of Plenty Regional Council
4	1	Director-General of Conservation
6	2	Longdill, Peter

Rejected

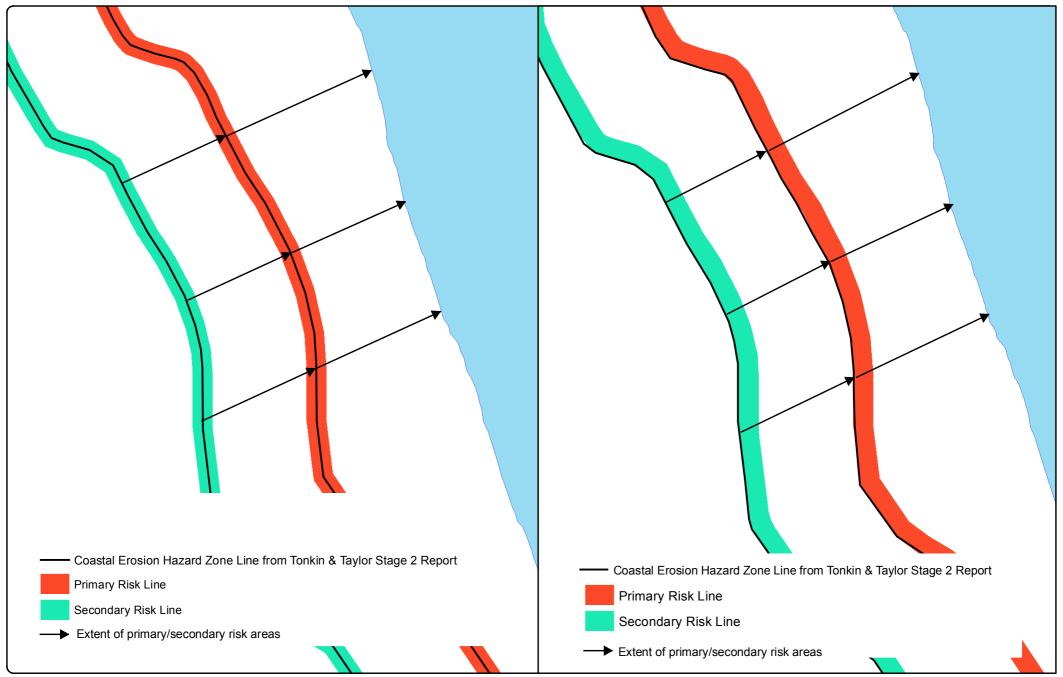
Submission	Point Number	Name
9	1	Allen, John
7	1	Hill, Pamela and David
2	2	Lovell, Alistair
1	2	Lovell, Warwick
8	3	Vernon, Gordon
27	3	Wallace, Gavin

4.2 Reasons for Decision

- **4.2.1** The option selected for showing coastal erosion areas on the District Plan maps is the most accurate way of identifying land susceptible to coastal erosion over the next 100 years as it is directly based on the Stage Two technical report. It also meets the requirements of the NZCPS. Landowners and buyers will be correctly informed of which land is at risk because it will not be over or under identified. It also means District Plan rules will apply to all land at risk, but not to any land which is not at risk. This is the fairest approach and is less restrictive than the status quo. It also goes some way towards recognising landowner concerns about effects on development potential, property values and sales and getting insurance by not mapping or restricting land unnecessarily.
- 4.2.2 It is noted that there is some uncertainty as to how the coastal erosion area lines are to be interpreted i.e. are their boundaries measured from the centre of the lines or from the landward (left) or seaward (right) edge of the lines? This is important to clarify because it will influence how much land is actually affected by the rules. A GIS review has shown that the coastal erosion area boundaries are currently measured from the centres of the lines. This is misleading because it means the primary risk line is actually shown on land which is not primary risk. The intention is that the lines should be a part of the coastal erosion area e.g. if the primary risk line is shown on a property then the line itself is part of primary risk. This means they should be measured from the landward (left) edge. This has been corrected and as a result there is a reduction in the landward extents of the coastal erosion area lines for primary and secondary risk (i.e. a reduction in the amount of land affected). This change is illustrated in the picture below.

Current Mapping Method Measured from centre of primary/secondary risk lines

Revised Mapping Method Measured from landward (left) edge of primary/secondary risk lines



5.0 Topic 4: Coastal Inundation Area Maps

5.1 Decision

5.1.1 That the coastal inundation areas shown on the District Plan maps are retained as notified.

The following submissions are therefore:

Accepted

Submission	Point Number	Name
19	3	Bay of Plenty Regional Council
6	3	Longdill, Peter

Rejected

Submission	Point Number	Name
3	1	Palmer, Noel and Tineke

5.2 Reason for Decision

5.2.1 The option selected for showing coastal inundation areas on the District Plan maps is the most accurate way of identifying land susceptible to coastal inundation over the next 100 years as it is directly based on the Stage Two technical report.

6.0 Topic 5: Significant Issues, Objectives and Policies

6.1 Decision

- **6.1.1** That the following be amended;
- **6.1.2** Amend Issue 1 as follows:

"The Western Bay of Plenty District is subject to a range of actual or potential natural hazards which will or may adversely affect human life, property or other aspects of the environment human life or the natural or built environment."

6.1.3 Amend Objective 1 as follows:

"Minimisation of the <u>risk</u> threat of natural hazards to <u>human life</u>, property and the natural and physical environment <u>human life</u> and the natural and built environment."

The following submissions are therefore:

Accepted

Submission	Point Number	Name
2	4, 6	Lovell, Alistair
1	4, 6	Lovell, Warwick
FS29	1	Powerco

Accepted in Part

Submission	Point Number	Name
4	5	Director-General of Conservation
FS29	3	Powerco
8	4	Vernon, Gordon
8	5, 6	Vernon, Gordon

Rejected

Submission	Point Number	Name
FS30	1	Director-General of Conservation
2	5	Lovell, Alistair
1	5	Lovell, Warwick
FS29	2	Powerco

6.2 Reasons for Decision

- **6.2.1** Issue 1 and Objective 1 have been reworded to be consistent with Policy 2 which contains the most accurate description of the three things being protected by the rules which are human life, the natural environment and the built environment. This also removes the confusion from Objective 1 regarding whether property is part of the physical environment.
- **6.2.2** The objectives and policies are considered to already give effect to the direction provided in the NZCPS regarding avoiding the increase in risk to coastal hazards. The existing wording in Objective 1 about "minimisation" of risk is considered to be sufficient to "avoid increasing" risk as required by Policy 25 of the NZCPS. Minimisation of risk would be to achieve the lowest level of risk practicable which would involve not increasing risk. Objective 1 is written generally in respect to all natural hazards so aims for an overall minimisation of risk. The policies then allow for either avoidance or mitigation to achieve this. The rules then include a mix of both responses. For coastal erosion areas, avoidance has been proposed with respect to the issue of further subdivision and intensification.

7.0 Topic 6: Coastal Erosion Area Rules

7.1 Decision

- **7.1.1** That the coastal erosion area rules are retained as notified other than as recommended below:
- 7.1.2 Amend Prohibited Activity Rule 8.3.6 (a) (i) and (ii) as follows:
 - (i) Minor dwellings
 - (ii) Additional *dwellings*
 - (i) More than one dwelling (whether a *dwelling* or *minor* <u>*dwelling*</u>)
- **7.1.3** Add the following to the discretionary activity list for the primary risk area (Rule 8.3.4 (a));
 - (v) Swimming pools
- **7.1.4** Amend Rule 8.5.1.1 (a) as follows:
 - (a) Extent to which the *building/structure* is relocatable, taking into account the design, location and materials of the *building/structure*, and access to remove the *building/structure*, and the ability to rehabilitate the site including the removal of all parts of *buildings/structures* and services and the reinstatement of land to protect natural character and the ability of dunes to act as a buffer against erosion.
- 7.1.5 Amend Rule 8.5.2 (b) (i) as follows:
 - (i) Extent to which the *building/structure* is relocatable, taking into account Fthe design, location and materials of the *building/structure*, and access to remove the *building/structure*, and the ability to rehabilitate the site including the removal of all parts of *buildings/structures* and services and the reinstatement of land to protect natural character and the ability of dunes to act as a buffer against erosion.
- **7.1.6** Amend the provisions relating to subdivision of titles partially identified within the Coastal Erosion Areas by:
 - Deleting the proposed non-complying activity status in 8.3.5

- Adding a new restricted discretionary status in 8.3.3 (for subdivisions which do not increase the number of titles or building sites located within the coastal erosion areas)
- Adding a new prohibited activity status in 8.3.6 for any subdivision that fails to qualify as a restricted discretionary activity (as detailed in the bullet point above)
- Deleting the matters for non-complying activities in 8.5.2 (c) and;
- Adding a new matter of discretion for restricted discretionary activities in 8.5.1.

The specific changes are shown in detail below;

8.3.5 Non-Complying Activities

(a) Coastal Erosion Areas

- (i) Subdivision of titles which are partially identified within a Coastal Erosion Area, excluding;
 - -<u>Minor boundary adjustments</u>
 - Updates to cross lease flat plans which incorporate consented building developments as provided for in Rule 8.3.2 (a) (i)
 - Conversion of titles from cross lease to freehold as provided for in Rule 8.3.2 (a) (ii)

Explanatory Note:

For the purpose of this rule, minor boundary adjustments means an adjustment of boundary between two adjoining *lots* and which will not increase the risk or potential risk to existing *buildings* or future *buildings* from coastal erosion or inundation.

8.3.3 Restricted Discretionary Activities

(b) Coastal Erosion Areas

- (i) <u>Subdivision of titles which are partially</u> <u>identified within the Coastal Erosion</u> <u>Area where;</u>
 - there will be no increase in the number of titles located (wholly or

partially) within the Coastal Erosion Area and:

- <u>all approved building sites are</u> <u>located outside of the Coastal</u> <u>Erosion Area.</u>

Explanatory note:

For the purpose of this rule, subdivision excludes;

- <u>Minor boundary adjustments (an adjustment</u> of boundary between two adjoining *lots* which will not increase the risk or potential risk to existing *buildings* or future *buildings* from coastal erosion or inundation)
- <u>Updates to cross lease flat plans which</u> incorporate consented building developments as provided for in Rule 8.3.2 (a) (i)
- <u>Conversion of titles from cross lease to</u> <u>freehold as provided for in Rule 8.3.2 (a) (ii)</u>

8.3.6 Prohibited Activities

(a) Coastal Protection Erosion Areas

(v) Subdivision of titles which are wholly identified within the Coastal Erosion Area and subdivision of titles which are partially identified within the Coastal Erosion Area but which do not qualify as Restricted Discretionary Activities under Rule 8.3.3 (b).

Explanatory note:

For the purpose of this rule, subdivision excludes;

- Minor boundary adjustments (an adjustment of boundary between two adjoining *lots* which will not increase the risk or potential risk to existing *buildings* or future *buildings* from coastal erosion or inundation)
- <u>Updates to cross lease flat plans which</u> incorporate consented building developments as provided for in Rule 8.3.2 (a) (i)
- <u>Conversion of titles from cross lease to</u> <u>freehold as provided for in Rule 8.3.2 (a) (ii)</u>

Explanatory Note:

For the purpose of this rule, minor boundary adjustments means an adjustment of boundary between two adjoining *lots* and which will not increase the risk or potential risk to existing *buildings* or future *buildings* from coastal erosion.

8.5.2 Discretionary/Non Complying Activities

(c) Coastal Erosion Areas

For subdivision of titles which are partially identified within a Coastal Erosion Area:

(i) There shall be no increase in the number of titles located (wholly or partially) within the Coastal Erosion Area.

- (ii) All approved buildings sites are to be located outside of the Coastal Erosion Area.
- (iii) The extent to which new title boundaries and new building sites affect the ability of any new or existing *buildings/structures* within the Coastal Erosion Area to be relocated.

8.5.1 Restricted Discretionary Activities

8.5.1.2 Coastal Erosion Areas

(i) The extent to which the subdivision (new title boundaries and new building sites) affects the ability of any new or existing buildings/structures within the Coastal Erosion Area to be relocated.

The following submissions are therefore:

Accepted

Submission	Point Number	Name
19	4, 5, 8	Bay of Plenty Regional Council
FS31	6, 7, 8, 9	Bay of Plenty Regional Council
4	2, 3, 4	Director-General of Conservation
6	4	Longdill, Peter
10	1	Western Bay of Plenty District Council

Accepted in Part

Submission	Point Number	Name
19	6, 7	Bay of Plenty Regional Council
FS30	2, 3	Director-General of Conservation
2	7, 18	Lovell, Alistair
1	7, 18	Lovell, Warwick

Rejected

Submission	Point Number	Name
11	2, 3	Llyod, Natalie
6	5, 7	Longdill, Peter
2	7, 9, 10, 12, 13, 15	Lovell, Alistair
1	7, 9, 10, 12, 13, 15, 16	Lovell, Warwick
5	2, 3	Mahar, Judith
8	2, 7	Vernon, Gordon
27	4, 5	Wallace, Gavin

7.2 Reasons for Decision

- **7.2.1** The notified rule changes avoid intensification within areas at risk to coastal erosion over the next 100 years. This will lead to fewer people and buildings being put at risk and will reduce costs to landowners over the long term. The rule changes also prevent multiple dwellings on-site so will avoid any further access issues with relocating buildings off-site.
- **7.2.2** The prohibited activity listings for minor dwellings and additional dwellings have been replaced with a single prohibited activity listing to clarify the intention which is only to restrict that part of a title within a coastal erosion area from having more than one dwelling (either a dwelling or minor dwelling).
- **7.2.3** In-ground swimming pools and swimming pools less than 1m above ground level are activities which would be at risk to coastal erosion but have been overlooked as they do fall within the definition of building/structure.. They should therefore be added to the list of discretionary activities for the primary risk and rural coastal protection areas. The activity listing should refer to 'swimming pools' rather than individually listing 'inground swimming pools' and 'swimming pools less than 1m above ground level' otherwise it is likely that plan users will assume swimming pools over 1m have been excluded. For clarity, this additional rule has not been requested for the coastal erosion area secondary risk or coastal inundation area.

- **7.2.4** Properties shouldn't be developed in a way which prevents them from being rehabilitated once vacated by owners or occupiers due to coastal erosion. Additional wording has been added to the matters of discretion in 8.5.1.1 (a) and 8.5.2 (b) (i) to allow Council to consider this when making decisions on resource consent applications. Rehabilitation should include the removal of all parts of buildings, structures and services and the reinstatement of land to protect natural character and the ability of dunes to act as a buffer against erosion.
- **7.2.5** It is acknowledged that there is some uncertainty for landowners about how rules will be applied to buildings which cross between areas of primary risk, secondary risk or no risk. This same uncertainty also exists in relation to other hazards like flood and stability areas and other features such as ecological and landscape. None of these features follow property boundaries so this problem will always exist, however it is generally well understood that compliance (e.g. relocatable design, floor levels, geotechnical reports, colour etc) is only required within an identified feature. This leaves landowners with decisions about building location and how to design i.e. building on the same property but clear of any District Plan feature allows for greater flexibility. This is illustrated in the picture below.

Example 1

- Resource consent is required

- Entire building is subject to rules

Example 2

of the risk area

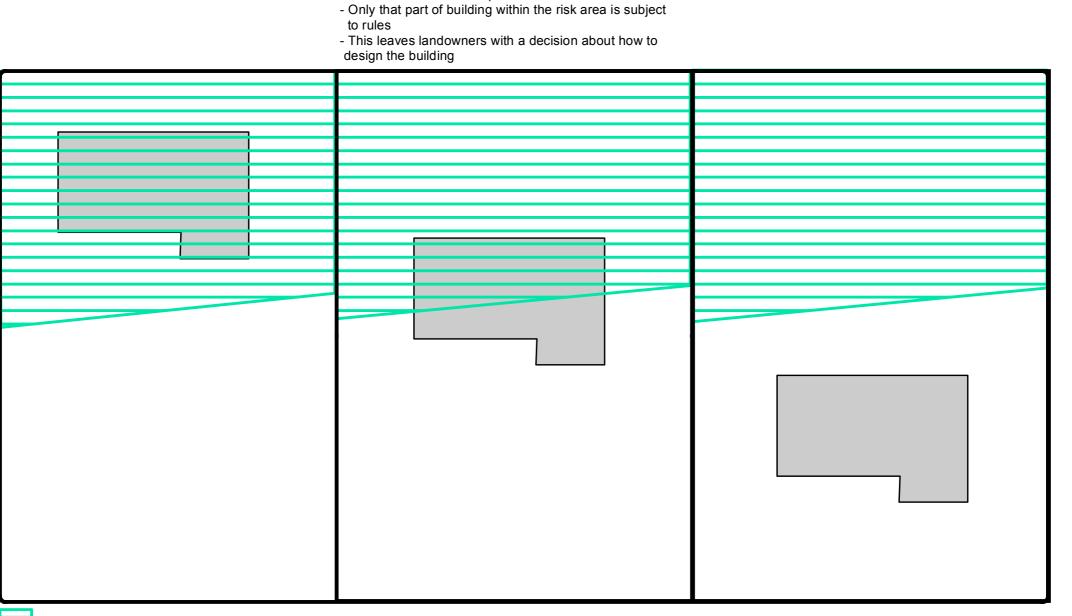
- Resource consent is required

Entire building is proposed within the risk area Building is proposed partly within and outside

Example 3

Entire building is proposed outside of the risk area

- No resource consent is required



Secondary Risk (used as an example)

No risk

7.2.6 The activity status for subdivision of titles partially identified within the Coastal Erosion Areas has been changed from noncomplying to restricted discretionary in response to submissions. This is because Council is satisfied this will still achieve the same outcome (avoidance of intensification) provided that: the activity status is dependent on requirements to not increase the number of titles or building sites within such areas; any failure to meet either of these will render such a subdivision a prohibited activity. This also provides more certainty to landowners as to whether they may be able to subdivide or not. The extent to which the subdivision affects the ability of any new or existing buildings/structures to be relocated has been retained as a matter of discretion. The activity status that will apply is shown in the picture below.

Example 1

Restricted Discretionary Activity

Meets both requirements;

- No increase in the number of titles in the risk area
- All building sites are proposed outside of the risk area However, not all building sites are proposed outside of

Example 2

Prohibited Activity

Passes only one of the requirements;

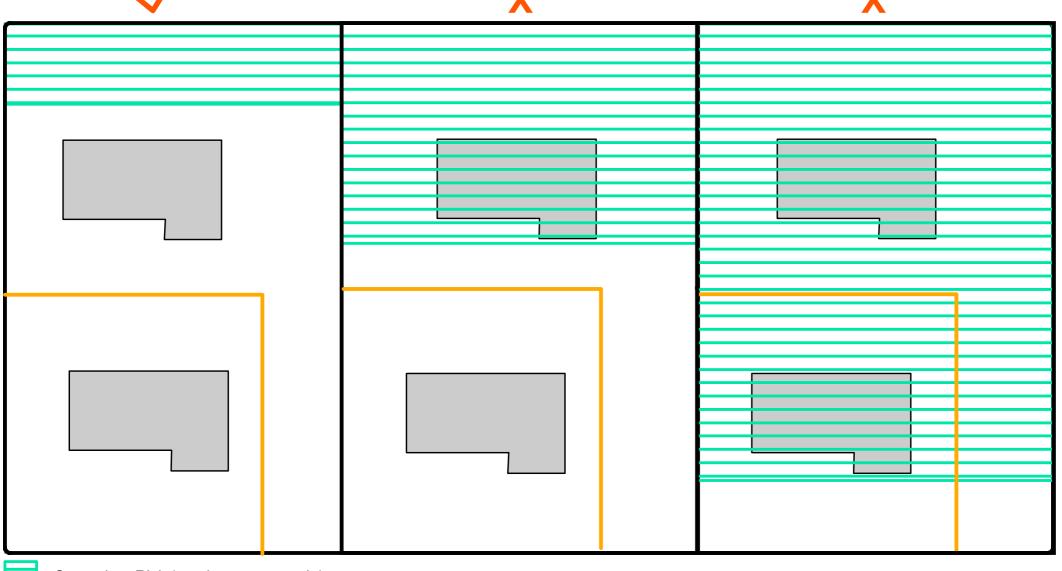
- No increase in the number of titles in the risk area
- However, not all building sites are proposed outside of the risk area

Example 3

Prohibited Activity

Fails both requirements;

- There is an increase (from 1 to 2) in the number of titles in the risk area
- Not all building sites are proposed outside of the risk area



Secondary Risk (used as an example)

Proposed subdivision title boundary

7.2.7 In response to submissions seeking permitted or controlled activity status for minor activities for reasonable domestic use such as letter boxes and washing lines (given as examples), changes have not been made as the definition of building/structure does not capture these and therefore resource consent is not required.

8.0 Topic 7: Coastal Erosion Area Access Yard

8.1 Decision

8.1.1 That the realignment of the access way is retained as notified.



The following submissions are therefore:

Accepted

Submission	Point Number	Name
2	3, 11	Lovell, Alistair
1	3, 11	Lovell, Warwick
12	1	Tait-Jamieson, Marguerite

Rejected

Submission	Point Number	Name
6	6	Longdill, Peter

8.2 Reason

8.2.1 The re-alignment clears the access yard for those properties that may depend on it if ever Shaw Road is lost to coastal erosion. This provides a long term benefit for future landowners. It also resolves particular issues for each of the three properties. It largely removes the access yard from the dwelling at 10 Edinburgh and moves it to the non-elevated part of the site. It removes the access yard from the dwelling at 72 Shaw Road. It also allows 74 Shaw Road to have future legal access. The positioning of the access yard 3m on either side of the property boundary reduces the possible level of restriction on the properties at 72 and 74 Shaw Road.

9.0 Topic 8: Coastal Inundation Area Rules

9.1 Decision

- 9.1.1 Amend Rule 8.3.3 (b) as follows:
 - (ii) *Earthworks* over 5m³ (<u>except for maintenance, operation, upgrade and development of above ground lineal network utility structures and underground network utilities where the ground is reinstated to the same contour as existed immediately prior to the works being undertaken)</u>
- **9.1.2** Amend Rule 8.5.1.2 (a) as follows:
 - (a) The effect of the proposal (including the design of any building/structure) proposed activity (including its location and design) proposed buildings/structures on the capacity of ponding areas and <u>function of</u> overland flow paths.

The following submissions are therefore:

Accepted

Submission	Point Number	Name
FS31	10, 11	Bay of Plenty Regional Council
26	2	Hall, Geoff
24	2	Hall, Josephine

Accepted in Part

Submission	Point Number	Name
14	1	Harray, Kenneth
20	3	Powerco
20	4	Powerco
13	1	Steward, Caroline

Rejected

Submission	Point Number	Name
11	4	Lloyd, Natalie
5	4	Mahar, Judith

9.2 Reasons for Decision

- **9.2.1** The notified controls on development are needed to ensure that people and buildings are protected from coastal inundation. Putting in place the same controls that apply to floodable areas brings a consistent approach to the management of all areas subject to flooding in the District. It also uses rules that have already been established and tested.
- **9.2.2** Rule 8.3.3 (b) (ii) has been amended to recognise that Powerco and any other network utility operator needing to maintain, operate, upgrade or develop above ground lineal network utility structures and underground network utilities should be able to do this without continually needing to apply for resource consent for earthworks. This is provided that the ground is reinstated to the same contour as existed immediately prior to the works being undertaken.
- **9.2.3** Rule 8.5.1.2, which seeks to manage effects on the capacity of ponding areas and functioning of flow paths, has been amended to make it clear that this requirement relates to all proposed activities (listed as restricted discretionary for this assessment). Specific reference to building/structure design has been removed so it cannot be misunderstood that it only applies to these and not to other activities such as earthworks. References to design and location (with respect to all activities) are included to provide guidance to Plan users about what responses may be required to manage the effects of these activities.

10.0 Topic 9: Rules covering all Natural Hazards

10.1 Decision

10.1.1 That a new permitted activity is added for coastal inundation areas as follows;

(d) Coastal Inundation Areas

(i) <u>Support structures associated with electricity</u> <u>lines</u>

The following submissions are therefore:

Accepted in Part

Submission	Point Number	Name
2	14	Lovell, Alistair
1	14	Lovell, Warwick
20	2	Powerco

10.2 Reasons for Decision

- **10.2.1** The existing permitted activity status for support poles was originally only requested by Powerco in relation floodable areas under Plan Change 35 (Natural Hazards Where the Hazard Does Not Exist). However, this was inserted into the District Plan incorrectly and as result showed them being permitted within all hazards. This wasn't the intention as no justification was provided for such an outcome. This can be corrected as an edit.
- **10.2.2** In response to Powerco's tabled evidence at the hearings, support poles have now been added as a permitted activity within the coastal inundation area. This is because the potential for effects on support poles are comparable between coastal inundation areas and floodable areas.

11.0 Plan Change 74 – Changes to the District Plan First Review

11.1 Purpose

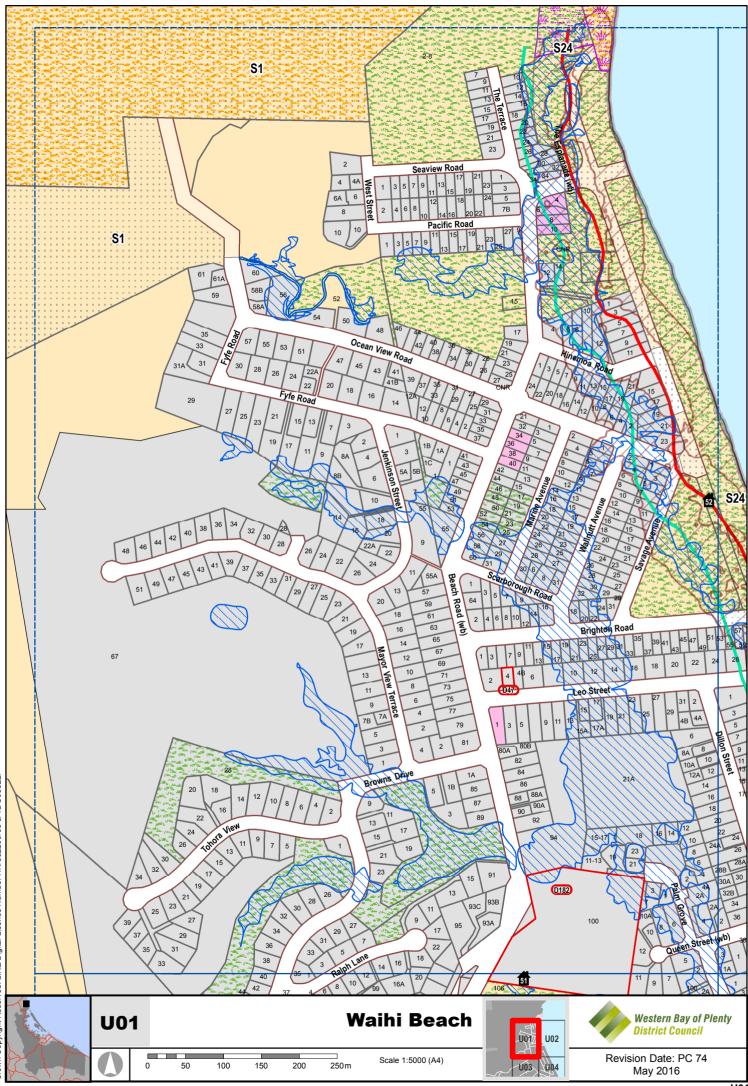
- **8.3.6** The purpose of this part of the report is to show the Proposed Plan Change in full including any recommended changes in response to the submissions and further submissions.
- **8.3.7** Recommended changes to the District Plan First Review text are shown as follows; existing District Plan text in <u>black</u>, and changes (being the culmination of the notified Plan Change and subsequent decisions) in <u>red</u>.

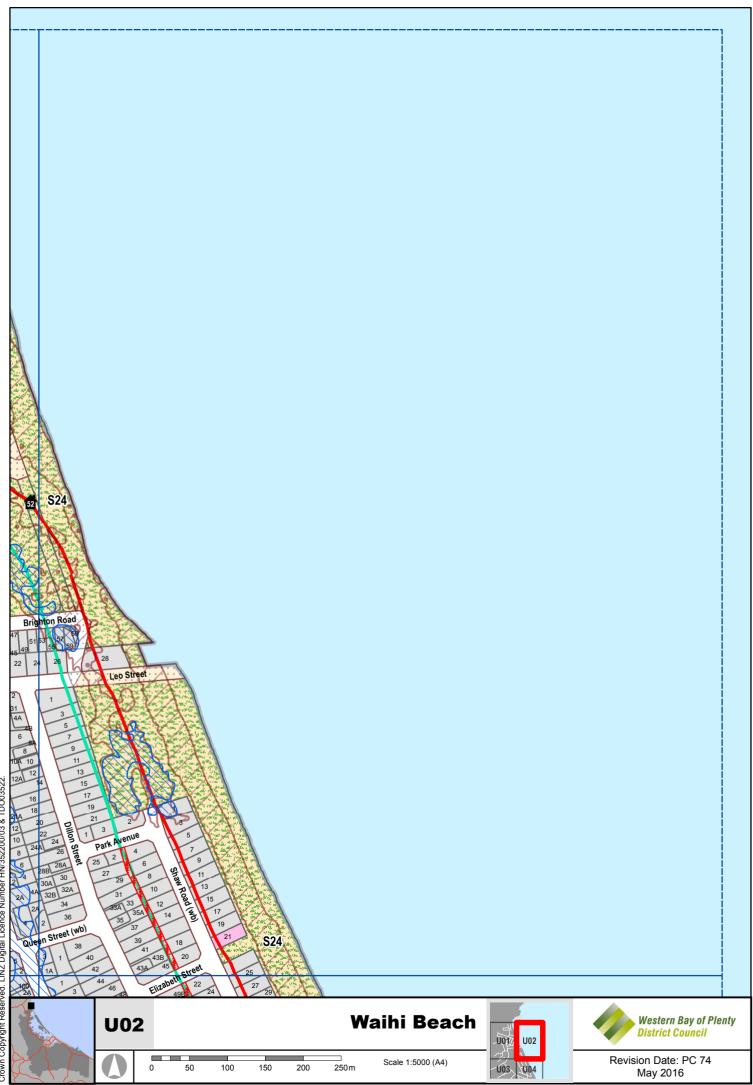
11.2 Changes

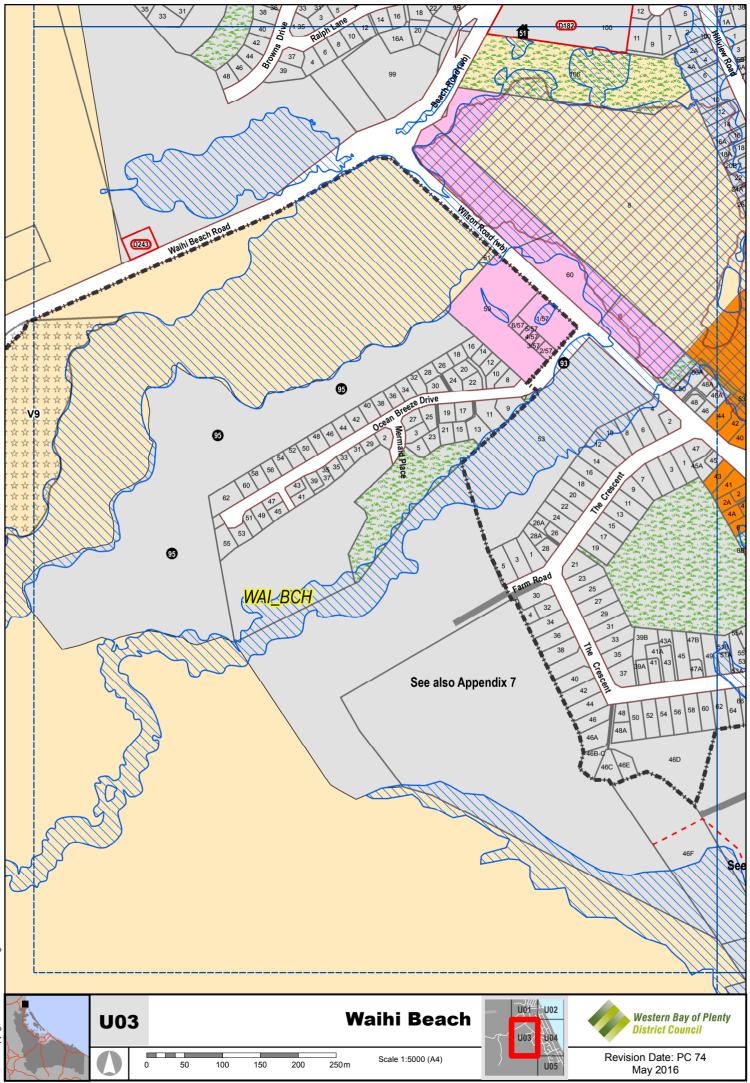
- **8.3.8** Amend the District Plan maps/legend as per **Attachment A**.
- **8.3.9** Amend Section 8 Natural Hazards as per **Attachment B**.

Attachment A

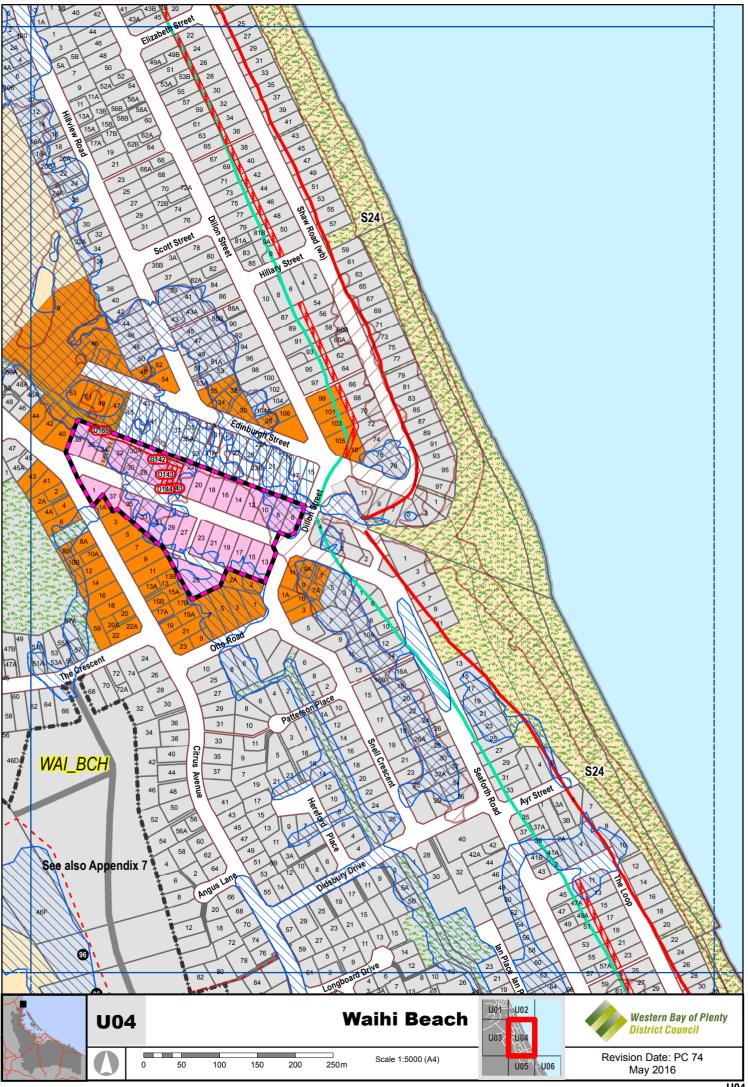
District Plan Maps/Legend

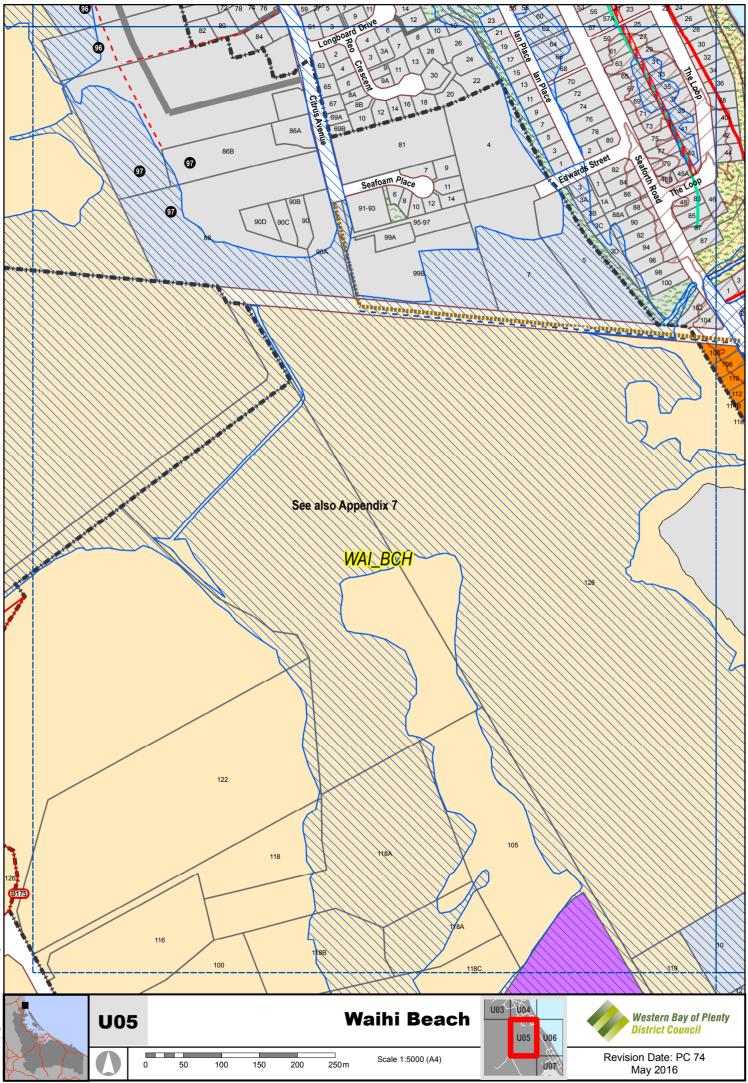






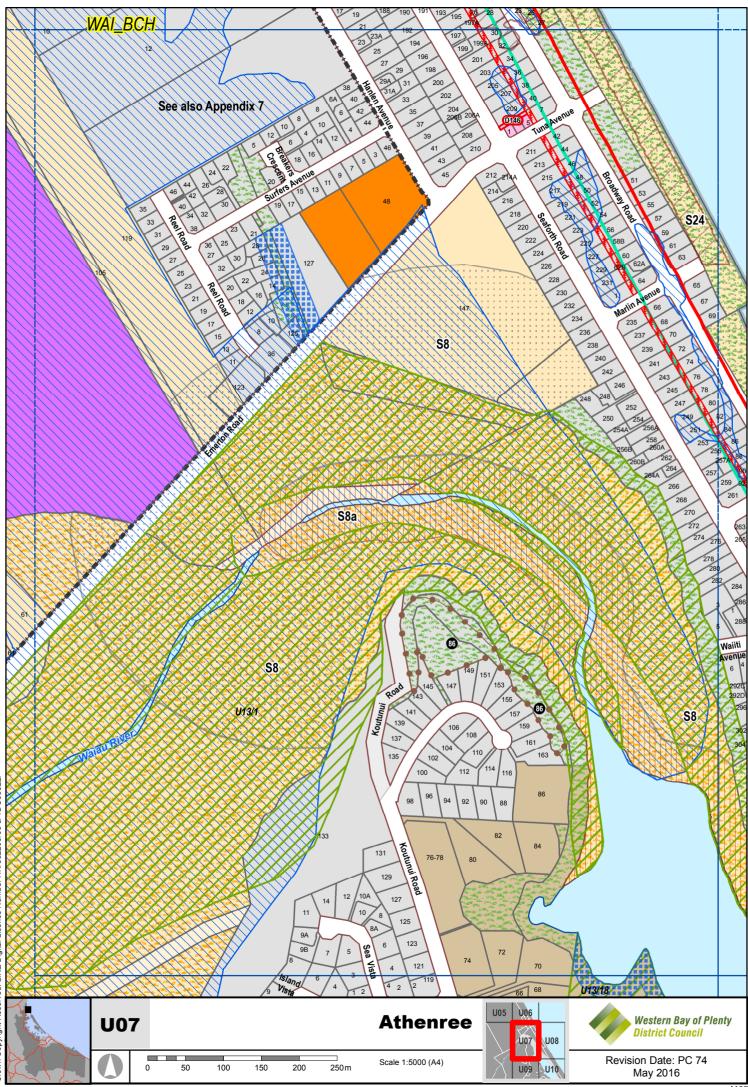
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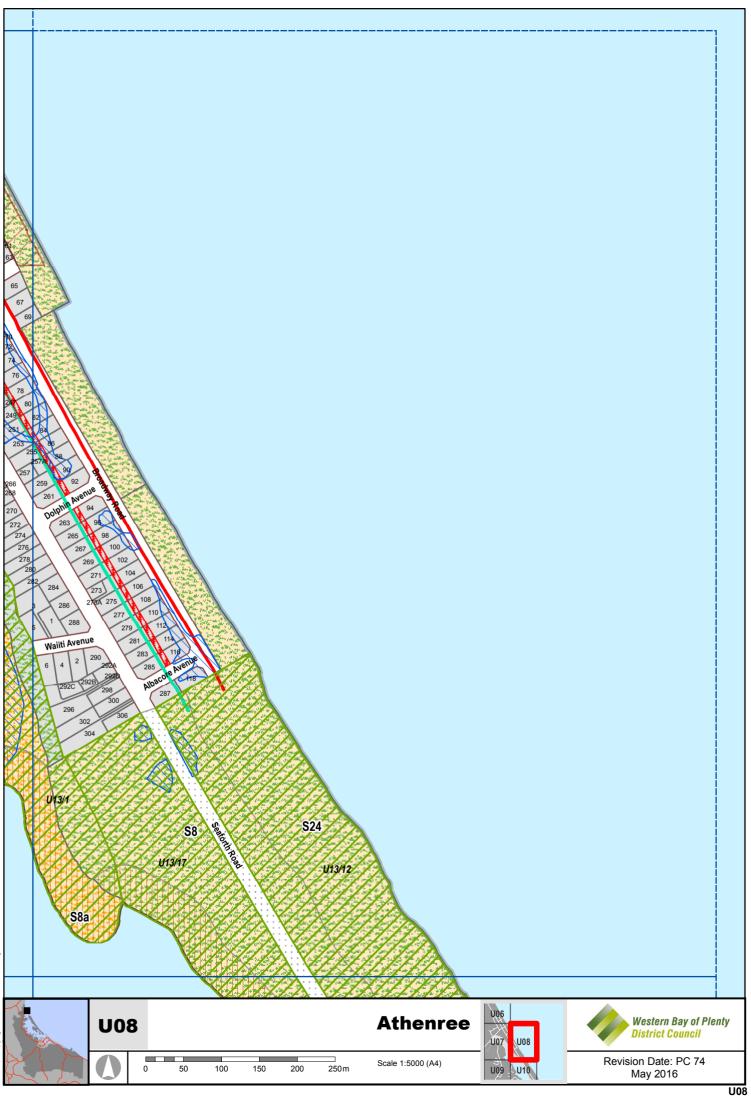


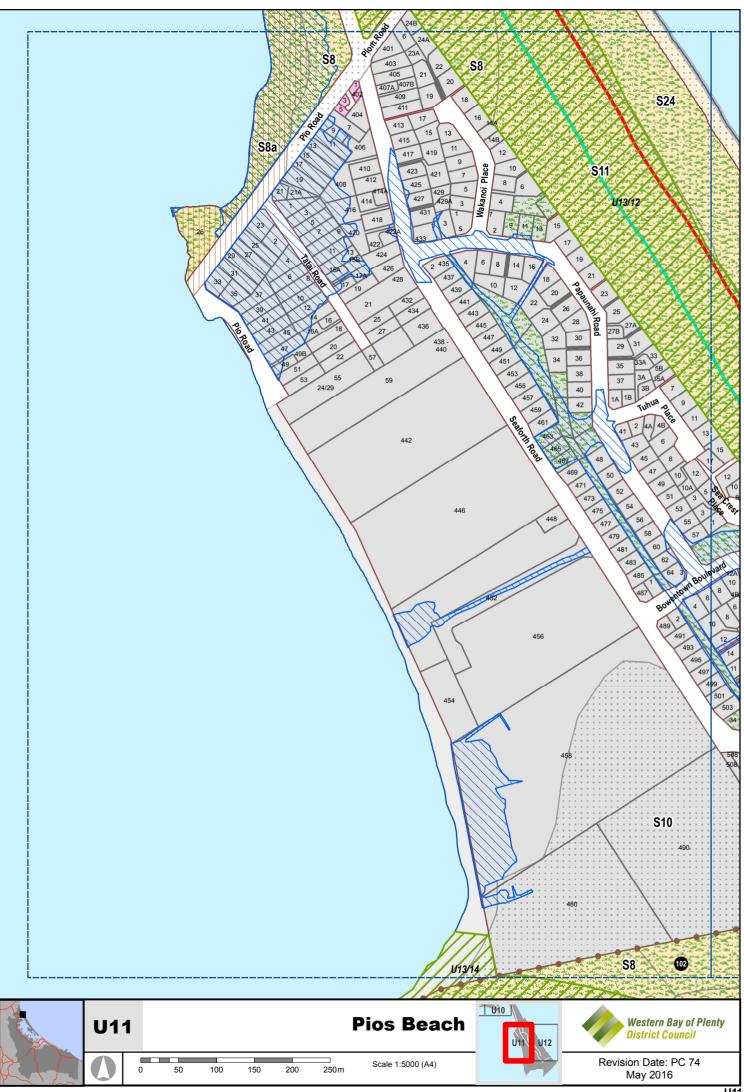


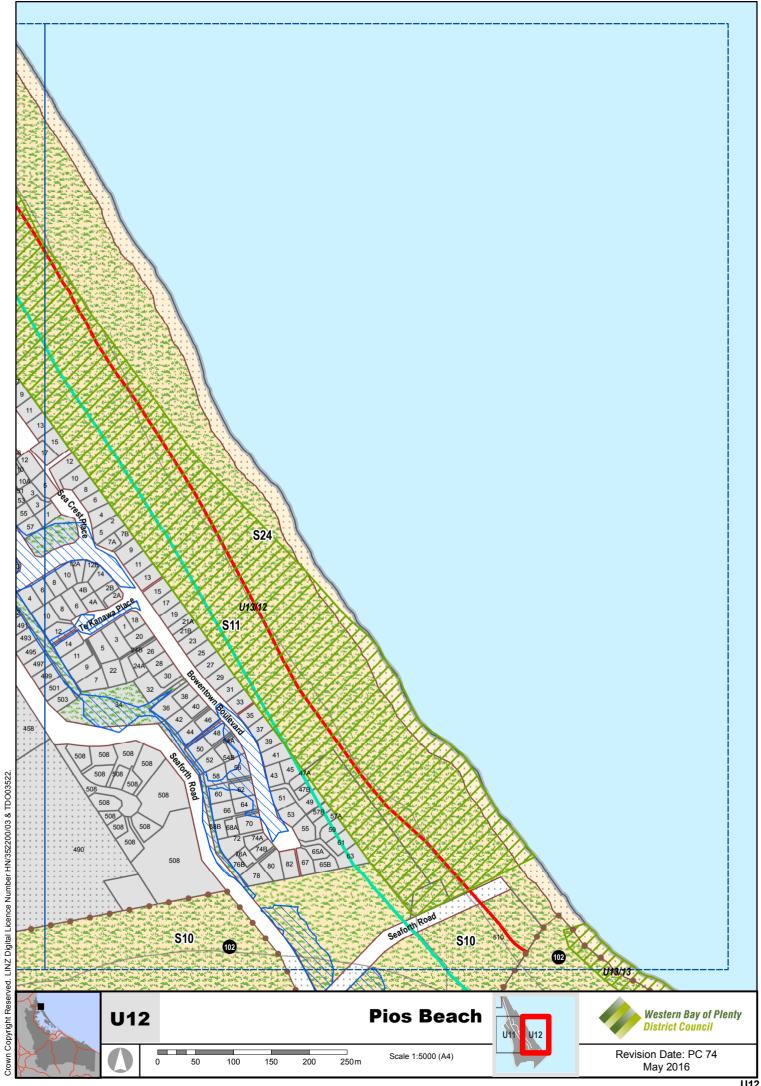
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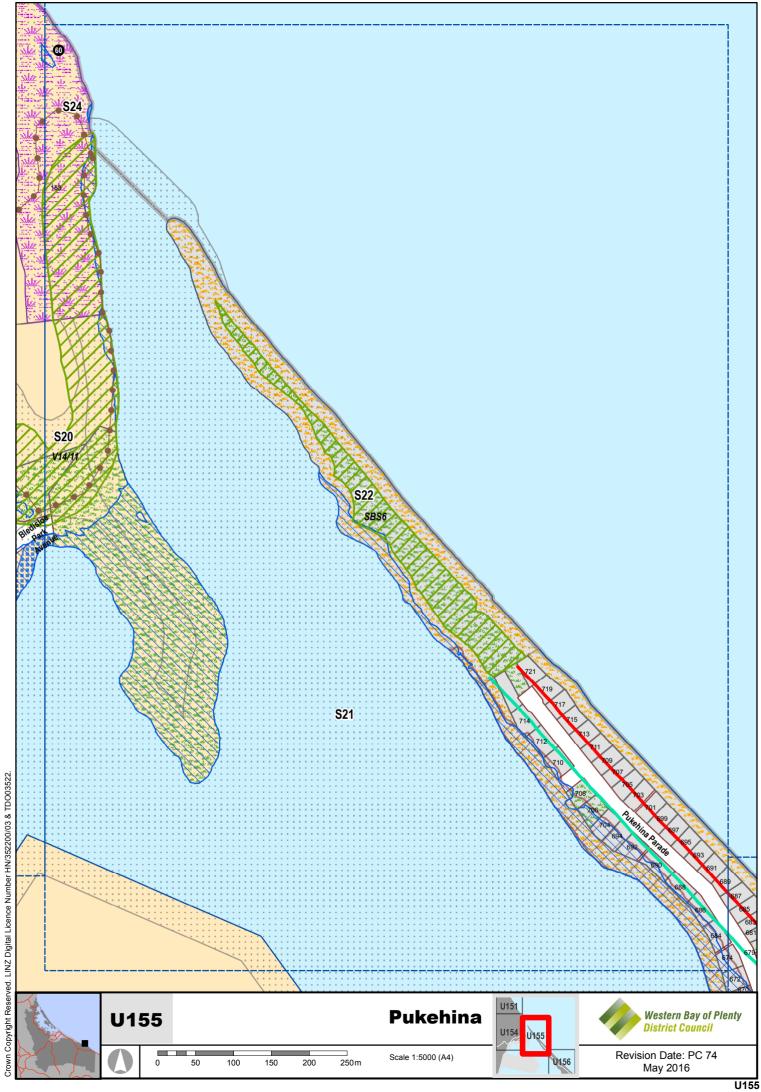


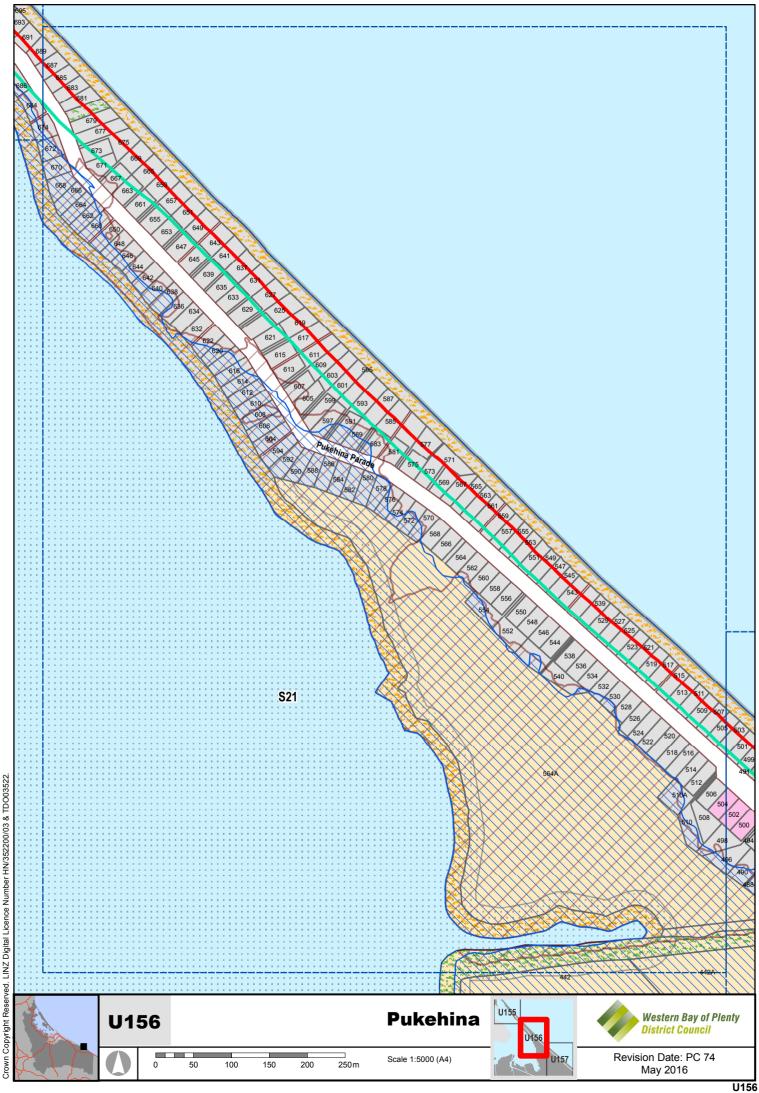


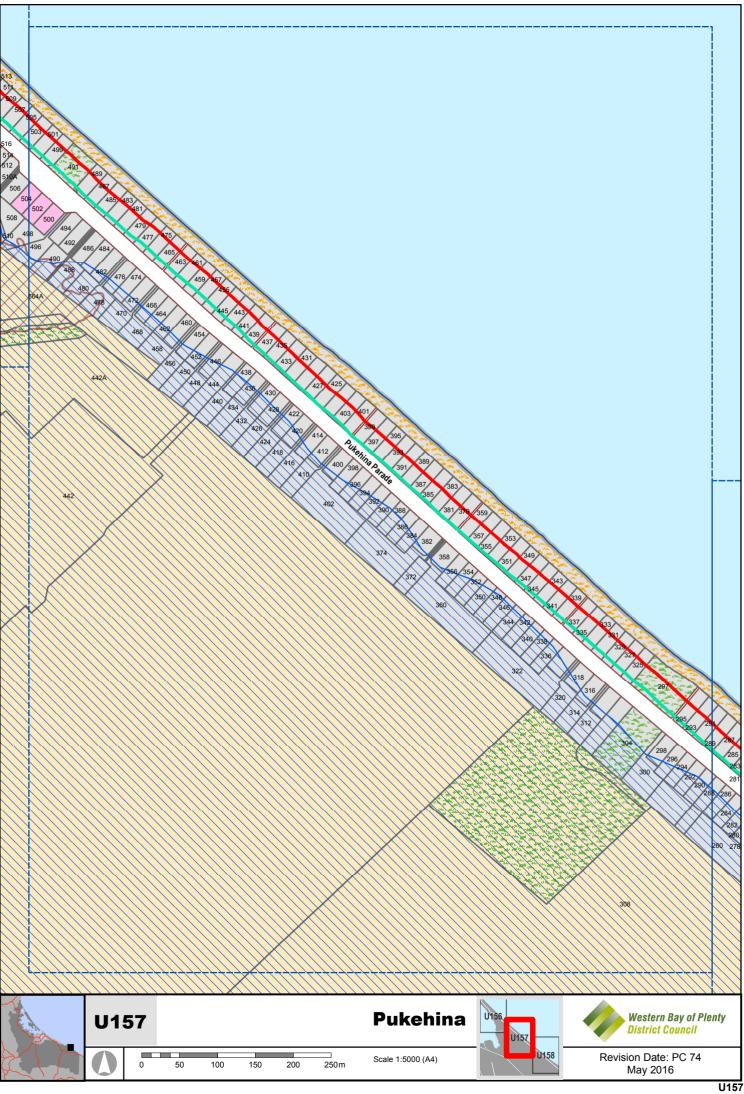


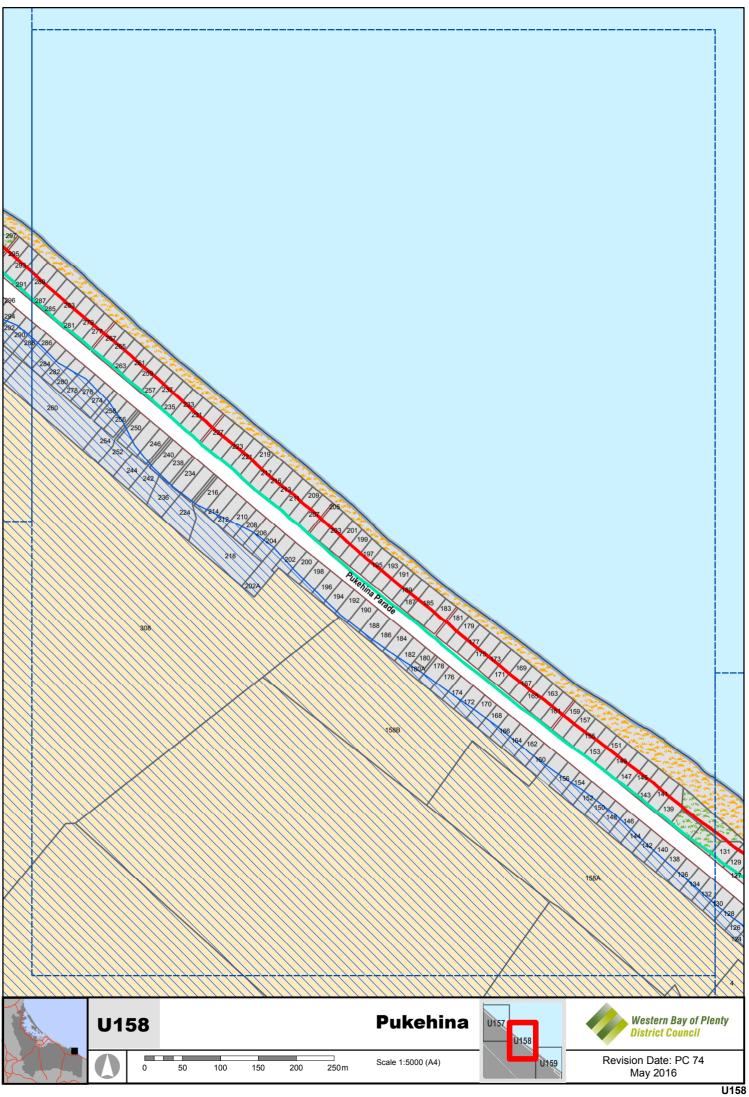


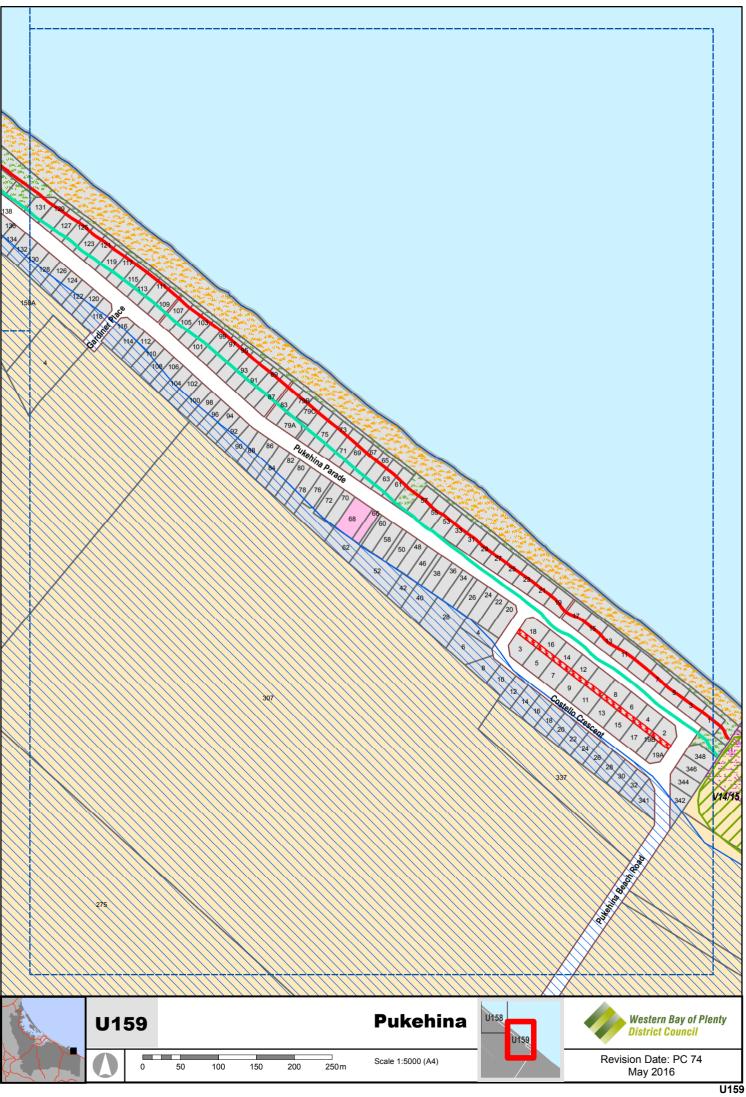


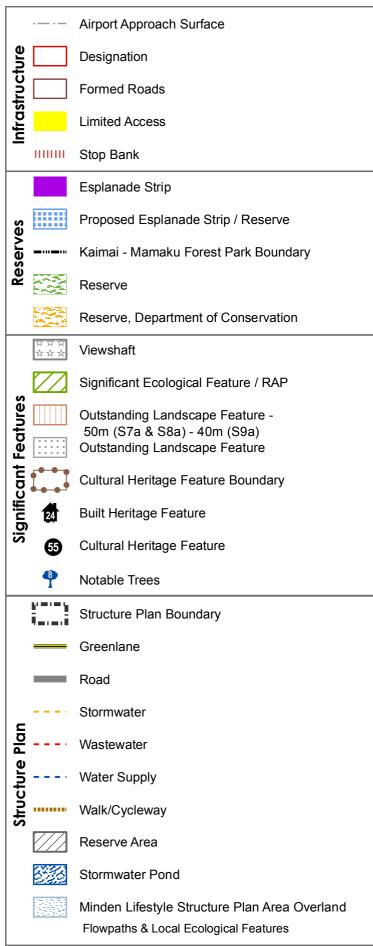








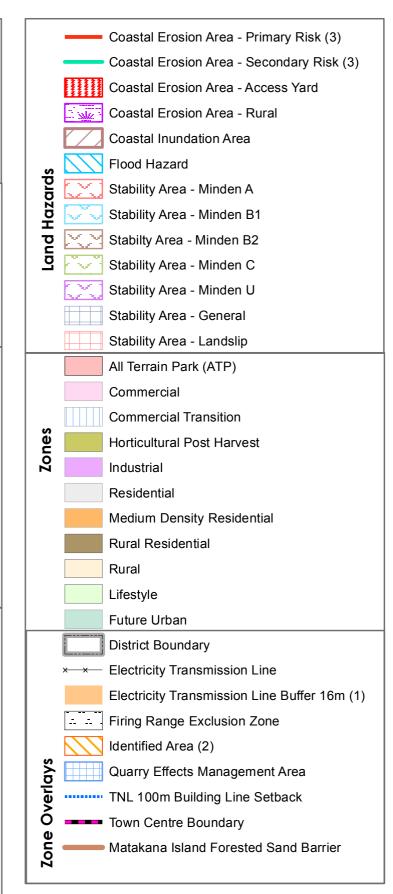




Bay of Plenty Regional Council should be consulted before undertaking any activity in the vicinty of Mean High Water Springs to establish the actual line of Mean High Water Springs. Formed roads are indicated as white shading on the road land parcels. Unformed roads have the underlying zone indicated.

(1) Compliance with NZECP 34:2001 is required in this area for *buildings/structures* and *earthworks*. The distance quoted is from the centreline of the transmission line.

(2) The identified areas include; the community service area at Rangiuru, the central hub site within the All Terrain Park and buffer zones in Stage 2 Omokoroa and Binnie Road.



(3) Primary risk includes the whole of the red line and the land towards the sea. Secondary risk includes the whole of the green line up to the edge of the red line.



Attachment B

Section 8 – Natural Hazards



Section Contents

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Natural Hazards

8. Natural Hazards

Explanatory Statement

The Western Bay of Plenty District is subject to a range of actual or potential natural hazards which will or may adversely affect human life, property or other aspects of the environment. The principal hazards affecting the *District* are coastal erosion and coastal inundation (temporary flooding from storm surge), tsunami, land instability, flooding, earthquake, and volcanic eruption.

While acknowledging the *Council's* statutory responsibilities, this section recognises the constraints imposed by the nature of some potential hazards affecting the Western Bay of Plenty *District* as well as the limitations of the level of existing information.

Areas considered most at risk from coastal erosion and <u>coastal</u> inundation are those already developed for urban purposes and which adjoin the open coastline (e.g. Waihi Beach <u>(including Bowentown) and Pukehina</u>). The<u>se</u> stretches of coastline concerned have been the subject of a detailed study commissioned by *Council* to identify land at risk to these coastal hazards over 0-50 and 50-100 years. The study findings are reflected in that land identified on the District Plan Maps as being within the 'Coastal Protection Area' through the identification of 'Coastal Erosion Areas' and 'Coastal Inundation Areas'. The Coastal Erosion Areas have been divided into primary risk and secondary risk based on 0-50 year and 50-100 year risk timeframes with more restrictive rules applying in the primary risk area. The Coastal Inundation Areas have not been divided into risk timeframes because the same restrictions apply within both. There is also a 'Coastal Erosion Area – Rural' in place for rural zoned areas adjoining the open coastline e.g. Matakana Island, Maketu and east of Pukehina.

The Coastal Protection Area has been divided into two parts, the Primary Risk Area and the Secondary Risk Area. The Primary Risk Area includes all private properties within the Coastal Protection Area that are considered to be subject to an immediate threat from coastal hazards. The Secondary Risk Area includes all land in the remainder of the Coastal Protection Area. All private property within the Secondary Risk Area is likely to be affected by coastal hazards at some future time but within the next 100 years.

The main area of known land instability is in the Minden where there exists land with the potential to slip when saturated. These and other potentially unstable areas have been identified on the District Planning Maps.

Heavy rain is a common feature of the Bay of Plenty Region and this may increase with global climate change. Low-lying areas, especially those in proximity to watercourses are at risk from inundation, scour and sedimentation. Within established urban areas land known to be susceptible to flooding exists in



parts of Waihi Beach, Katikati, Te Puke and Pukehina. Again, such land has been identified on the Planning Maps.

Land identified on the Planning Maps as being at risk from the foregoing hazards is subject to various controls on *development* either through District Plan rules or other methods outside the District Plan. In many cases because of the quality of existing information such identification is very 'broad brush' and where more detailed study of specific areas eliminates land from the identified potential hazard then otherwise complying *development* will be able to proceed through the resource or building consent processes without additional restriction (e.g. consent or Section 74 Building Act 2004 notices). Nevertheless there are some areas where *Council* has good information on the level of hazard risk and in these areas it is considered appropriate to control the intensification of *development*.

The Western Bay of Plenty adjoins the Taupo Volcanic Zone and is therefore considered to be subject to a high risk from earthquakes as well as at risk from volcanic eruptions originating from outside the *District*. Notwithstanding the limitations of addressing these potential natural hazards through the District Plan, much is achievable in terms of public education and preparedness through other methods such as emergency management plans.

8.1 Significant Issues

- The Western Bay of Plenty District is subject to a range of actual or potential natural hazards which will or may adversely affect human life, property or other aspects of the environment_human life or the natural or built environment. The principal hazards affecting the District are coastal erosion, and coastal inundation, tsunami, land instability, flooding, earthquake, and volcanic eruption.
- 2. Areas actually or potentially under threat from such natural hazards as coastal erosion, <u>coastal inundation</u>, and land instability and <u>flooding</u> can be identified in advance. Specific areas more at risk than others from some hazards such as earthquakes and volcanic eruptions are more difficult to identify in advance and the potential effects of the hazards themselves so widespread and devastating that avoidance or control through the District Plan is not realistically possible.
- 3. Some areas now known to be at risk from actual or potential hazards have already been developed for urban purposes.
- 4. Some natural hazard avoidance, remedial, or mitigation measures have the potential to adversely impact on natural character and on significant ecological values existing within the coastal and other environments.



8.2 Objectives and Policies

8.2.1 Objectives

- 1. Minimisation of the <u>risk</u> threat of natural hazards to human life, property and the natural and physical environment human life and the natural and built environment.
- 2. Protection of the existing natural character of the coastal environment and other natural features having recognised ecological, landscape or other significance to the *District*.

8.2.2 Policies

- 1. Adopt the best practicable options (including the 'do nothing' option) in the management of areas actually or potentially at risk from natural hazards and where possible adopt avoidance rather than mitigation or remedial measures.
- 2. Control or prevent the establishment of activities which have the potential to increase the extent to which natural hazards have or may have an adverse effect on human life or the natural or built environment.
- 3. Enable the *development* or redevelopment of land already subdivided or otherwise developed for urban purposes in areas now known to be at risk from natural hazards only where any likely adverse effects can be avoided or appropriately mitigated.
- 4. Ensure that new subdivision, land use activities or other *development* is located and designed so as to avoid the need for further hazard protection works.
- 5. Ensure that where hazard protection works are necessary their form, location and design are such as to avoid or mitigate potential adverse environmental effects.
- Enable natural ecosystems in currently undeveloped areas to migrate inland as a result of dynamic coastal processes (including sea level rise as predicted by recognised national or international agencies).
- 7. Encourage the conservation and enhancement of natural features such as sand dunes and *wetlands* which have the capacity to protect existing developed land.
- 8. Prevent the use of concrete and block work foundations, floors and *walls* in the Primary Risk Area Coastal Erosion Areas.



8.3 Activity Lists

The following rules apply to those activities which are located within Natural Hazard Features identified on the District Planning Maps.

Explanatory Note:

For the purpose of interpretation, the Coastal Protection Erosion Area – Rural Open Coastline means land adjoining the open coastline, zoned Rural and within 100m of *MHWS*, and this description shall take priority over the District Planning Maps with regard to location.

8.3.1 Permitted Activities

<u>(a)</u>	All Identif	All Identified Natural Hazards		
	(a)_(i)	<i>Buildings/Structures</i> within an <i>Approved Building Site –</i> Natural Hazards.		
<u>(b)</u>	Stability Areas – Minden			
	(b)_(i)	Buildings/Structures within Stability Area - Minden C.		
<u>(c)</u>	(c) Floodable Areas			
	(c)_(i)	Buildings/Structures where evidence establishes:		
		<u>A building/structure</u> will be located clear of the natural hazard (floodable area) irrespective of the extent of the natural hazard (floodable area) shown by the Planning Maps; or		
		 A building/structure will not be affected by the natural hazard (floodable area) 		
	(b) <u>(ii)</u>	Support poles associated with electricity lines.		
	(b)_(iii)	Uninhabited farm <i>buildings</i> including, but not limited to, pump sheds, implement sheds and storage sheds, provided that an appropriate notice under s73 of the Building Act has been attached to the title.		
		Explanatory Note Suitable evidence may include, but is not limited to, aerial photographs, site inspections from <i>Council</i> engineers, and engineering assessments from a suitably qualified person.		



(d) Coastal Inundation Areas

(i) Support poles associated with electricity lines

8.3.2 Controlled Activities

- (a) All Identified Natural Hazards
 - (i) <u>Updates to cross lease flat plans which incorporate</u> <u>consented building developments</u>
 (ii) <u>Conversion of cross lease titles to freehold titles where</u> <u>each cross lease title has at least one lawfully</u>
- (a)(b) Stability Areas Minden
 - (i) Subdivision where all of the proposed privateways and building sites are within Stability Area Minden C

8.3.3 Restricted Discretionary Activities

(a) Coastal Protection Erosion Area – Secondary Risk

established dwelling

(i) *Buildings/Structures* not within an *Approved Building Site – Natural Hazards*

(b) Coastal Erosion Areas

- (i) <u>Subdivision of titles which are partially identified within the</u> <u>Coastal Erosion Area where;</u>
 - <u>there will be no increase in the number of titles located</u> (wholly or partially) within the Coastal Erosion Area and:
 - <u>all approved building sites are located outside of the</u> <u>Coastal Erosion Area.</u>

Explanatory note:

For the purpose of this rule, subdivision excludes;

 Minor boundary adjustments (an adjustment of boundary between two adjoining *lots* which will not increase the risk or potential risk to existing *buildings/structures* or future *buildings/structures* from coastal erosion or inundation)



- Updates to cross lease flat plans which incorporate consented building developments as provided for in Rule 8.3.2 (a) (i)
- <u>Conversion of titles from cross lease to freehold as</u> provided for in Rule 8.3.2 (a) (ii)

(b) Floodable Areas and Coastal Inundation Areas

- (i) *Buildings/Structures* not within an *Approved Building Site – Natural Hazards*
- (ii) *Earthworks* over 5m³ (<u>except for maintenance</u>, operation, upgrade and development of above ground lineal network utility structures and underground network utilities where the ground is reinstated to the same contour as existed
- (iii) <u>immediately prior to the works being undertaken</u>)
 Closed board fences, retaining walls, raised gardens, concrete and block walls
- (c) Stability Areas Minden (A, B1, B2 & U)
 - (i) *Buildings/Structures* not within an *Approved Building Site – Natural Hazards*
 - (ii) Subdivision, except if in accordance with 8.3.2 (a)
 - (iii) Filling, excavation and other *development*
 - (iv) Vegetation removal
 - (v) Disposal of stormwater and wastewater

8.3.4 Discretionary Activities

- (a) Coastal Protection Erosion Areas Primary Risk and Rural Open Coastline
 - Buildings/Structures not within an Approved Building Site – Natural Hazards
 Construction of now public roads
 - (ii) Construction of new public roads
 - (iii) *Reticulated Infrastructure*
 - (iv) Coastal and river protection works including groynes and sea walls
 - (v) <u>Swimming pools</u>
 - (v) Subdivision within the Coastal Protection Area Open Coastline
 - (vi) Buildings/Structures within the identified access yard
- (b) Coastal Erosion Area Access Yard (Waihi Beach only)

(i) Buildings/Structures



(b)(c) Floodable Areas and Coastal Inundation Areas

- (i) Subdivision
- (c)(d) Stability Areas Landslip and General
 - (i) *Buildings/Structures* not within an *Approved Building Site – Natural Hazards*
 - (ii) Subdivision
 - (iii) Construction of new roads
 - (iv) Reticulated Infrastructure

8.3.5 Non-Complying Activities

(a) Coastal Protection Area – Primary Risk (i) *Minor dwellings* (ii) Additional *dwellings* (iii) *Education Facilities* for no more than four persons (iv) *Accommodation Facilities* for no more than four persons

(b) Coastal Protection Area – Secondary Risk

Explanatory Note:

For the purpose of this rule, minor boundary adjustments means an adjustment of boundary between two adjoining *lots* and which will not increase the risk or potential risk to existing *buildings* or future *buildings* from coastal erosion.

8.3.5 Prohibited Activities

- (a) Coastal Protection Erosion Areas
 - (i) <u>More than one dwelling (whether a *dwelling* or *minor* <u>*dwelling*</u>)</u>
 - (ii) <u>Education facilities for more than four persons</u>
 - (iii) <u>Accommodation facilities for more than four persons</u>
 - (iv) Fixed (i.e. non-portable) solid waste management facilities including sanitary landfills and the disposal of *hazardous substances* (public or private) in the Primary and Secondary Risk Areas.
 - (v) Subdivision of titles which are wholly identified within the Coastal Erosion Area and subdivision of titles which are partially identified within the Coastal Erosion Area



but which do not qualify as Restricted Discretionary Activities under Rule 8.3.3 (b).

Explanatory note:

For the purpose of this rule, subdivision excludes;

- <u>Minor boundary adjustments (an adjustment of boundary between two adjoining *lots* which will not increase the risk or potential risk to existing *buildings/structures* or future *buildings/structures* from coastal erosion or inundation)</u>
- Updates to cross lease flat plans which incorporate consented building developments as provided for in Rule 8.3.2 (a) (i)
- <u>Conversion of titles from cross lease to freehold as</u> provided for in Rule 8.3.2 (a) (ii)

<u>(i)</u> Subdivision (excluding minor boundary adjustments) within the Primary Risk Area of the Coastal Protection Area. See Rule 8.3.5(b) for definition of minor boundary adjustment.

8.4 Matters of Control

8.4.1 Controlled Activities – Subdivision and Buildings within Stability Area - Minden C

Council reserves control over the following matters

- (a) Protecting each *lot* and surrounding *lots* from instability or erosion by:
 - (i) Managing *earthworks* within the site.
 - (ii) Controlling the location and formation of building sites, roads, accessways, tracks or *privateways* within the subdivision.
 - (iii) Controlling the location and type of wastewater and stormwater treatment and disposal systems.
 - (iv) Detailing requirements for the retention or planting of vegetation including species selection that will help stabilize any cut slope or fill batter.
 - (v) Requiring the collecting and piping of stormwater, or its management by way of soakage or discharge to ground or to natural waterways, including the collection of roof water, as appropriate. The preference is for collection and discharge of stormwater to the base of gulleys at a rate that mimics natural catchment flow rates.



- (vii) Avoiding erosion or natural hazards or mitigating these hazards when they cannot be avoided;
- (b) Building sites should be set back from existing waterbodies and ephemeral flowpaths to the extent that any risks to buildings from instability and flooding are avoided.
- (c) For subdivision and *development* in the Minden Stability Areas regard shall be had to the stability information requirements in Rule 8.6.

8.4.2 Controlled Activities – Updates to cross lease flat plans and conversion of cross lease titles to freehold titles

Council reserves control over the following matters;

- (a) <u>The relevant provisions of Section 12 Subdivision and</u> <u>Development.</u>
- (a) The subdivision activity performance standards and matters of control which apply to controlled activity subdivisions within the applicable zone.

8.5 Matters of Discretion

8.5.1 Restricted Discretionary Activities

8.5.1.1 Coastal Protection Erosion Area – Secondary Risk

- (a) Extent to which the *building/structure* is relocatable, taking into account the design, location and <u>materials of the *building/structure*</u>, access to remove the *building/structure*, and the ability to rehabilitate the site including the removal of all parts of *buildings/structures* and services and the reinstatement of land to protect natural character and the ability of dunes to act as a buffer against erosion.
- (b) Types of building materials used, <u>A</u>voidance of the use of concrete and block wall foundations, *walls* and flooring, <u>except that for sheds</u> <u>and garages (used for non-habitable purposes) all of these are</u> <u>allowed other than concrete and block walls.</u>
- (c) *Buildings/structures* should be located as far away from the hazard as possible.
- (d) Any new information or assessment undertaken by a suitably qualified person/s which confirms that the land is not in fact subject to the natural hazard concerned.



(e) The potential environmental effects of or likely to result from the proposal.

8.5.1.2 Coastal Erosion Areas

(i) The extent to which the subdivision (new title boundaries and new building sites) affects the ability of any new or existing buildings/structures within the Coastal Erosion Area to be relocated.

8.5.1.2 Floodable Areas and Coastal Inundation Areas

- (a) The effect of the proposed activity (including its location and design) proposed buildings/structures on the capacity of ponding areas and <u>function of</u> overland flow paths.
- (b) The design of the *building/structure*.
- (b) The appropriate minimum finished floor level of the proposed *building/structure.*

Explanatory Notes:

This is the combination of the flood level plus an additional freeboard height as stipulated in *Council's* Development Code.

<u>Council can provide specific flood levels for all Coastal Inundation</u> Areas and for some but not all of the Floodable Areas. Where specific flood levels are unknown, applicants may be required to engage a suitably qualified engineer to undertake a flood level assessment for the property.

For Waihi Beach <u>Floodable Areas</u> (Planning Maps A03 and U01-U04) this shall be based on the 2% AEP (inclusive of climate change). and an additional freeboard height, as stipulated in *Council's* <u>Development Code</u>.

(d) Verifiable new information which demonstrates that the subject site is not in fact under threat from flooding the identified hazard.

8.5.1.3 Stability Areas – Minden A, B1, B2 & U

Council shall have regard to the following matters in addition to 8.4.1:

(a) Subdivision shall be accompanied by a geotechnical report prepared by a suitably qualified person showing a building site capable of being approved and confirming as a minimum that:



- (i) *Earthworks* required in forming each building site and access roads and/or *privateways* in the subdivision shall avoid or mitigate adverse effects on the stability of the land within the site and will have no adverse effects on the stability of adjacent land
- (ii) Each building site will be required to be set back an appropriate distance, as recommended by a geotechnical engineer, from any terraces or steep slopes to the extent that there are no adverse effects on the stability of the land or any adjacent land.
- (iii) Stormwater and wastewater systems can be constructed and operated within each lot with no adverse effects on the stability of the adjacent land.
- (iv) For subdivision and *development* in the Minden Stability Areas regard shall be had to information requirements in Rule 8.6

8.5.2 Discretionary/Non Complying Activities

The matters in 8.4.1 and 8.5.1 and the following matters shall be used as a guide for assessing Discretionary Activities and Non-Complying Activities:

(a) Stability Areas

- (i) The design, location and materials of the *building/structure*
- (ii) The extent to which the proposal addresses any identified natural hazard.
- (iii) Any verifiable information which confirms that the property is in fact not under any threat from the hazard.
- (iv) For subdivision and *development* in the Minden Stability Areas regard shall be had to information requirements in Rule 8.6.

(b) Coastal Protection Erosion Areas – Primary Risk and Rural

(i) Extent to which the *building/structure* is relocatable, taking into account ∓the design, location and materials of the *building/structure*, access to remove the *building/structure*, and the ability to rehabilitate the site including the removal of all parts of



buildings/structures and services and the reinstatement of land to protect natural character and the ability of dunes to act as a buffer against erosion.

- (ii) Avoidance of the use of concrete and block wall foundations, walls and flooring, except that for sheds and garages (used for non-habitable purposes) all of these are allowed other than concrete and block walls.
- (iii) <u>The degree to which the ability of *buildings* or *structures* to be relocated is affected.</u>
- (iv) The extent to which the proposal addresses any identified natural hazard and the degree to which the physical risk to *buildingsl structures* from coastal erosion can be avoided or mitigated.
- (ii)(v) Additions and alterations to existing *buildings* should be landward of the existing *building*.
- (iii)(vi) New buildings or significant redevelopment of existing buildings should be situated as far back from the toe of the foredunes as practicable. <u>The most recent</u> <u>measurements of the toe of the foredune are available</u> from Council.
- (vii) Imposition of consent conditions requiring that where the toe of the foredune comes within a distance of a *building/structure* which may put it at immediate risk (minimum of 8m), the *building/structure* is to be relocated a sufficient distance back from the toe of the foredune to mitigate that risk. The distances specified in the conditions will depend on the latest scientific information available to *Council.*
- (iv) The extent to which the proposal addresses any identified natural hazard.
- (viii) The impact that the proposal will have on the natural character of the coastal environment, recognising the ecological values of the dune area, and dune restoration.
- (ix) Registration of an encumbrance instrument on the title to address any of the matters above.



- (vi) Any verifiable information which confirms that the property is in fact not under any threat from the hazard.
- (vii)(x) Scientific information from a suitably qualified coastal expert which demonstrates that the land within the Secondary Risk Area of the Coastal Protection Erosion Area is not under any actual or potential risk from coastal erosion hazard. For the purpose of meeting this rule any assessment of coastal hazards shall include those standards outlined in the Bay of Plenty Regional Coastal Environment Plan.
- (viii) The degree to which the ability of *buildings* or *structures* to be relocated is affected.
- (ix) The degree to which the physical risk to *buildings* or *structures* from coastal erosion can be avoided and coastal inundation can be avoided or mitigated.

8.6 Stability Requirements - The Minden Lifestyle Structure Plan Area

The Minden Lifestyle Structure Plan area is divided into five stability risk areas i.e. A, B1, B2, C and U Stability Areas (see Planning Maps). The following provisions set out a description of each stability area followed by the stability requirements applying to *development* in that area.

(a) Stability Area A

Description

'An area in which processes or factors have been identified which indicate that past or active erosion or mass movement is evident or is likely to occur and which presents or may present an identifiable hazard to *structures* within the delineated area'.

Area A may be summarised as land subject to or likely to be subject to instability.

Stability Assessment

Building, subdivision or other *development* including excavation, filling, removal of vegetation (excluding noxious plants), disposal of stormwater or domestic wastewater into or over the area delineated will not be permitted unless the following documentation is produced to the satisfaction of the *Council*.

Geomorphological and geological evidence and a 'stability analysis' demonstrating that the proposed *development* area will not be subject to instability or be inundated by debris from upslope, and



how the proposed *development* will ensure that any *structure* will not become damaged by land slippage arising on or off the site.

A stability analysis shall include:

- (i) Topographical Survey (if not already available);
- Definition of the nature and continuity of the strata over the whole area of land involved and to a depth below which slipping is most unlikely, by means of test pits and/or continuous recovery core drilling;
- Definition of the density, effective stress shear strength parameters, residual shear strength parameters and the sensitivity of the soil in each stratum in which sliding is possible;
- (iv) Definition of ground water levels and piezometric pressures in the strata during extreme infiltration conditions;
- Analysis of possible mechanisms of failure, relevant to the specific geomorphology of the site using effective stresses;
- (vi) A professional opinion as to the stability of the ground.

Even with a thorough stability analysis, complete avoidance of all risk cannot be obtained and no guarantee of safety expected.

(b) Stability Area B1

Description

'Area B1 is land where mass movement is evident or where the slope gradient is such that instability or erosion could occur, particularly if developed'.

Area B1 may be summarised as land potentially subject to instability.

Stability Assessment

Building, subdivision or other *development* including excavation, filling, removal of vegetation (excluding noxious plants), disposal of stormwater or domestic wastewater into or over the area delineated will not be permitted unless the following documentation is produced to the satisfaction of the *Council*.

Geomorphological and geological evidence and a 'stability analysis' as outlined in 8.6(a) demonstrating that the proposed *development* area will not be subject to instability or be inundated by debris from



upslope, and how the proposed *development* will ensure that any *structure* will not become damaged by land slippage on or off the site.

Restrictions on and requirements for subdivision, *building* or other *development* are the same as for Area A but it shall be sufficient to demonstrate that the risks of instability and damage are at an acceptable level.

(c) Stability Area B2

Description

'Area B2 is land where the slope gradient is such that instability is not considered likely to occur, and no mass movement is evident, but is similar to land where instability and erosion has occurred elsewhere in the Western Bay of Plenty in similar materials due to cutting and/or filling and/or on site disposal of stormwater'.

The risk of instability or erosion is greater in areas delineated B1 than B2.

Area B2 may be summarised as land potentially subject to instability but less so if there is no onsite disposal of sewage or stormwater concentration, no significant vegetation removal, no significant cutting or filling.

Stability Assessment

Buildings, subdivision or other *development* such as excavation, filling, removal of vegetation (excluding noxious plants), disposal of stormwater or domestic wastewater into or over the area delineated will be allowed to proceed only if supported by the following documentation to the satisfaction of the *Council*.

A 'stability assessment' demonstrating that the proposed *development* will not result in the risks of instability or damage being at an unacceptable level.

A stability assessment shall include:

- (i) Topographical Survey (if not already available);
- (ii) (Definition of the nature and continuity of the strata over the whole area of land involved and to a depth below which slipping is most unlikely, by means of test pits and/or drilling, and/or auguring;
- (iii) Assessment of the density, relative strength and the sensitivity of the soil in each stratum in which sliding is possible;



- (iv) Assessment of ground water levels and piezometric pressures in the strata during extreme infiltration conditions;
- (v) A professional opinion as to the stability and instability of the ground.

A stability assessment is likely to be sufficient where there will be no significant interference with existing vegetation, no cutting or filling in excess of 0.5m in depth and no in ground disposal of stormwater runoff.

(d) Stability Area C

Description

'Area C is land not considered to be at risk from instability. A stability analysis or stability assessment would not generally be required'.

Council reserves control however over a number of matters relating to subdivision and *development* to ensure the protection of each *lot* and surrounding *lots* from any potential instability or erosion.

(e) Stability Area U

Description

'Area U is land that has not undergone geotechnical analysis and therefore the risk of instability is uncertain'.

Because of this unknown risk, all subdivision and *development* occurring within Area U requires Restricted Discretionary resource consent and applications must be accompanied by a specific stability analysis to determine the level of risk and appropriate mitigation measures.

8.7 Other Methods

8.7.1 Building Act 2004

Where as a result of stability investigations the land in question is found to be subject to or likely to be subject to slippage, but the building work itself will not accelerate or worsen the situation or affect other land, then *Council* may grant a building consent subject to the title being notated that the land is subject to or is likely to be subject to slippage pursuant to Section 72 of the Building Act 2004.

This will be used to exercise control over *buildings* within identified hazard prone areas. Such controls may include restrictions relating to building design and damage liability. Information on known site specific potential natural hazards



will be recorded on *Council's* Geographic Information System and provided with all Project and Land Information Memoranda.

8.7.2 Coastal Protection Works

The *construction*, repair and *maintenance* of coastal protection structures such as sea walls and the implementation of 'dune care' programmes will be achieved pursuant to *Council's* powers under other legislation including the Reserves Act 1977 and the Local Government Act 1974.

Resource consents from the *Regional Council* are required for any coastal protection works within the coastal marine area (i.e. below *MHWS*).

8.7.3 Earthworks and Vegetation Removal

Consents to these activities are likely to be also required from the *Regional Council.*

8.7.4 Civil Defence

Civil Defence plays an important education role. This, along with the emergency management plans is aimed at mitigating potential hazards as well as preparedness for emergencies.