

**AUCKLAND CITY DISTRICT PLAN
(Hauraki Gulf Islands Section – Operative 1996)**

Proposed Plan Change under Section 73 of the
Resource Management Act 1991

**PROPOSED PLAN CHANGE: PLAN MODIFICATION
No. 24**

Date of Council decision: 18 December 2003

File No. 311/229024

(The plan change as notified has been amended as a result of the council's decisions on submissions. Deletions are shown by ~~strike-throughs~~. Insertions are marked by underlining.)

**PART A: AMENDMENTS TO PART 6B – STANDARDS FOR
PERMITTED ACTIVITIES**

- 1. Amend Clause 6B.1.1.3 Vehicle Access, by adding the following additional sentence to the first paragraph:**

Earthworks associated with driveway construction are also subject to the requirements of Clause 6B.1.3.6 Earthworks.

- 2. Amend Clause 6B.1.1.5 Roading, by deleting the existing paragraph C and replacing it with the following:**

C. The use, maintenance and upgrading of existing formed public roads. Provided that where earthworks are carried out, erosion and sediment control methods shall be undertaken to minimise silt runoff in accordance with Annexure 1 in Part 13. (See also Part 2 – Designations.)

- 3. Amend Clause 6B.1.3.5 Noise, by deleting the existing subclause A(i) and replacing it with the following:**

A.(i) With the exception of (ii), (iii), (iv) and (v) below, the following noise standards shall apply to all permitted activities.

(subclauses A(i)(a) and (b) remain unchanged)

- 4. Amend Clause 6B.1.3.5 Noise, by adding an additional subclause as follows:**

(v) Noise resulting from earthworks activities shall comply with the following:

- a) As measured in all land units except for Land Units 15, 16 and 25 -

All construction work associated with earthworks shall be designed and conducted to ensure that the noise from the earthworks activity does not exceed the noise limits in the following table.

Time of the Week	Time Period	Duration of the Work			
		Typical Duration ⁽¹⁾ (dBA)		Short-term duration ⁽²⁾ (dBA)	
		L _{eq}	L _{max}	L _{eq}	L _{max}
Weekdays	6.30am-7.30am	60	75	65	75
	7.30am-6.00pm	75	90	80	95
	6.00pm-8.00pm	70	85	75	90
	8.00pm-6.30am	45	75	45	75
Saturdays	6.30am-7.30am	45	75	45	75
	7.30am-6.00pm	75	90	80	95
	6.00pm-8.00pm	45	75	45	75
	8.00pm-6.30am	45	75	45	75
Sundays and Public Holidays	6.30am-7.30am	45	75	45	75
	7.30am-6.00pm	55	85	55	85
	6.00pm-8.00pm	45	75	45	75
	8.00pm-6.30am	45	75	45	75

(1) 'Typical duration' means construction work at any one location for more than 14 calendar days.

(2) 'Short-term duration' means construction work at any one location for up to 14 calendar days.

All noise measurements shall be made at a position 20m from any adjacent dwelling or visitor facility (on another lot) within any land unit except Land Units 15, 16 and 25 or at the legal boundary when this is closer to the building. This may be referred to as the notional boundary.

b) As measured in Land Units 15 and 25 -

All construction work associated with earthworks shall be designed and conducted to ensure that the noise from the earthworks activity does not exceed the noise limits in the following table.

Time Period	L _{eq} (dBA)
7.30am-6.00pm	75
6.00pm-7.30am	80

All noise measurements shall be made at a position 20m from any adjacent occupied building (on another lot) within Land Units 15 and 25 or at the legal boundary when this is closer to the building. This may be referred to as the notional boundary.

Under both (a) and (b), the sound levels shall be measured and assessed in accordance with the provisions of the NZS 6803:1999 Acoustics: Construction Noise.

c) As measured in Land Unit 16 -

Refer to the land unit rules and to the requirements of any approved quarry management plan.

5. Amend Clause 6B.1.3.6 Earthworks, by deleting the existing clause in its entirety and replacing it with the following:

A. Subject to (B), (C), ~~and (D)~~ and (E) below, and compliance with the standards set out in (E) below, earthworks are a permitted activity where:

- i) The land subject to earthworks has a slope of greater than 1 in 6 and the contiguous extent of the earthworks measured in square metres does not exceed the limit specified below (and also stated in Row 3.6a of Table 1) for the relevant land unit;

<u>Land unit</u>	<u>Permitted earthworks on land with a slope > 1 in 6</u>
<u>1, 2, 4</u>	<u>nil earthworks</u>
<u>3, 5, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 24, 25, 26</u>	<u>≤50m²</u>
<u>6 and 8 – Great Barrier and other outer islands</u>	<u>≤30m²</u>
<u>6 and 8 – Waiheke and other inner islands</u>	<u>≤50m²</u>
<u>7, 9</u>	<u>≤10m²</u>
<u>10</u>	<u>≤20m²</u>
<u>16</u>	<u>refer Land Unit 16 rules</u>
<u>17, 23</u>	<u>≤30m²</u>

or

- ii) The land subject to earthworks has a slope of less than or equal to 1 in 6 and the contiguous extent of the earthworks measured in square metres does not exceed the limit specified below (and also stated in Row 3.6b of Table 1) for the relevant land unit.

<u>Land unit</u>	<u>Permitted earthworks on land with a slope ≤ 1 in 6</u>
<u>1, 2, 4</u>	<u>nil earthworks</u>
<u>3, 5, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 24, 25, 26</u>	<u>≤400m²</u>
<u>6 and 8 – Great Barrier and other outer islands</u>	<u>≤50m²</u>
<u>6 and 8 – Waiheke and other inner islands</u>	<u>≤400m²</u>
<u>7, 9</u>	<u>≤10m²</u>
<u>10</u>	<u>≤20m²</u>
<u>16</u>	<u>refer Land Unit 16 rules</u>
<u>17, 23</u>	<u>≤30m²</u>

Slope means the slope of the land surface measured by the nearest route from the bottom to the top of the area of land to be disturbed. It should have an accuracy no less than that achieved by a hand held inclinometer or abney level.

B. With the exception of Land Units 1, 2, and 4, earthworks to dig trenches for utility services or effluent disposal systems which do not comply with (A) above are a permitted activity where:

- i) the utility services include water, power, wastewater, drainage, telecommunications, or other in-ground services of a similar character; and
- ii) no more earth is removed than is absolutely necessary for the trench; and
- iii) the trench does not remain open for more than 48 hours; and

iv) the disturbed land is revegetated or otherwise protected from soil erosion as soon as practicable; and

v) the earthworks comply in all respects with the standards set out in (EE) below.

C. Earthworks to construct farm tracks in Land Units 3 and 5 on Great Barrier Island which do not comply with (A) above are a permitted activity where:

i) the tracks are required for farming activities; and

ii) the earthworks comply in all respects with the standards set out in (F) below.

GD. Earthworks for the use, maintenance and upgrading of existing formed public roads are provided for in Clause 6B.1.1.5(C).

DE. Earthworks are permitted in Land Unit 16 where they are undertaken in accordance with an approved Quarry Management Plan.

EE. The permitted activities listed in (A), ~~and (B)~~ and (C) above are allowed without a resource consent where they comply in all respects with the following standards:

i) All earthworks are undertaken with the application of erosion and sediment control measures to ensure that, in so far as is practicable, soil erosion is minimised and sediment does not enter into wetland or water systems. For information on how to achieve this refer Annexure 1, Erosion and Sediment Control ~~Measures~~ Guidelines; and

ii) No material is deposited on any public road. Means to avoid depositing material on the road are set out in Annexure 1, Erosion and Sediment Control ~~Measures~~ Guidelines; and

iii) No more than 200m³ of cleanfill is transported by public road either to or from the area subject to earthworks. The 200m³ volume is expressed in solid measure; and

iv) Any surplus excavated material which is not reused on site, shall be disposed of in a legally authorised manner.

FG. More restrictive earthworks controls may apply under other provisions of the District Plan. Particular regard should be had to the following:

i) Clause 6B.1.3.7 Protection Yards and Water Systems;

ii) Clause 6B.1.3.2 Protection of Sites of Ecological Significance;

iii) Clause 6B.1.3.4 Hazard Areas;

iv) Part 7 – Policy Areas.

GH. Where evidence of a burial site or any other archaeological feature is found or exposed on an area where earthworks is occurring, all work must cease immediately and the Council and Historic Places Trust be advised. *Note:* On receipt of such advice it is the Council's practice to consult with the relevant authorities (Historic Places Trust, Department of Conservation, Tangata Whenua) and the owner of the property with regard to the appropriate treatment of the feature.

Bylaw and Regional Requirements

All works in flood plains and overland flow paths must comply with Part 18 of the Auckland City Consolidated Bylaw 1998, Stormwater Management.

Earthworks over 0.25ha in area, roading / tracking / trenching over 100m in length, works within floodplains or watercourses (including diversion), and cultivation of soil for commercial crop production may require resource consent from the Auckland Regional Council prior to the activity commencing. The ARC should be contacted to determine whether a consent is required and to discuss technical requirements.

Reasons / Explanation

A major reason for imposing controls on earthworks is to minimise the potential for erosion and sedimentation which can have adverse effects on streams, wetlands and coastal systems. Permitted activity standards require the implementation of erosion and sedimentation control measures for all earthworks activities to avoid adverse effects from sediment runoff. The steepness of the land and the extent of the earthwork are the main factors which determine how much sediment leaves an area of earthworks. The earthworks controls therefore include limits based on slope and exposed surface area. Above specified limits a resource consent is required.

A limit is also placed on the volume of cleanfill which can be transported by public road either to or from the site. This is due to the adverse effects that heavy vehicles can have on traffic safety and road surfaces.

Earthworks are not permitted as of right in Land Units 1, 2 and 4. This is in keeping with the objectives of these land units which emphasise the need to protect the natural character of the coastal cliffs, dune systems and sand flats, and wetland systems.

Earthworks can have an adverse visual impact due to the removal of vegetation and the alteration of landforms. Visual effects are most obvious during the construction phase but reduce over time if planting and other landscaping is established round the new building or driveway. Adverse visual effects are more likely to occur where earthworks occur on steeper landforms with a coastal location. For landscape reasons more restrictive earthworks controls have been applied in Land Units 6, 7, 8 and 9 on Great Barrier and other outer islands, and in Land Units 10, 17 and 23.

The requirement to cease earthworks if a burial site or any other archaeological features are exposed is included in recognition of the obligations under the Historic Places Act.

- 6. Amend Clause 6B.1.3.7(B) Wetlands/Water Systems Yards, by deleting the existing words 'No building shall be located within these yards' and replacing it with the following:**

No building or earthworks shall be located or undertaken within these yards.

- 7. Modify Table 1 – Standards for Permitted Activities, by deleting the existing provision in row 1.3 Vehicle Access as it applies to Land Unit 9 and replacing it with the following:**

1 in 6

- 8. Modify Table 1 – Standards for Permitted Activities, by deleting the existing provision in row 3.7 Protection Yards – Wetlands / Water systems as it applies to all land units and replacing it with the following:**

No building or earthworks are permitted within 20m of a wetland or water system.

9. Modify Table 1 – Standards for Permitted Activities, by deleting the existing row 3.6 earthworks, and replacing it with the following rows:

	Land unit →	Coastal Cliffs 1	Dune Systems & Sand Flats 2	Alluvial Flats 3	Wetland Systems 4	Foothills & Lower Slopes 5	Steep Pastoral Slopes 6	Steep Infertile Coastal Slopes 7	Regenerating Slopes 8	Low Fertility Slopes 9	Forest & Bush Areas 10
3.6a	Earthworks on land with a slope >1 in 6	nil earthworks	nil earthworks	≤50m ²	nil earthworks	≤50m ²	Great Barrier and other outer islands: ≤30m ² Waiheke and other inner islands: ≤50m ²	≤5010m ²	Great Barrier and other outer islands: ≤30m ² Waiheke and other inner islands: ≤50m ²	≤5010m ²	≤5020m ²
3.6b	Earthworks on land with a slope ≤1 in 6	nil earthworks	nil earthworks	≤400m ²	nil earthworks	≤400m ²	Great Barrier and other outer islands: ≤50m ² Waiheke and other inner islands: ≤400m ²	≤40010m ²	Great Barrier and other outer islands: ≤50m ² Waiheke and other inner islands: ≤400m ²	≤40010m ²	≤40020m ²

	Land unit →	Traditional Residential 11	Bush Residential 12	Retailing 13	Visitor Facilities 14	Industrial 15	Quarrying 16	Landscape Amenity 17	Outdoor Activity 18
3.6a	Earthworks on land with a slope >1 in 6	≤50m ²	≤50m ²	≤50m ²	≤50m ²	≤50m ²	Refer LU 16 rules	≤5030m ²	≤50m ²
3.6b	Earthworks on land with a slope ≤1 in 6	≤400m ²	≤400m ²	≤400m ²	≤400m ²	≤400m ²	Refer LU 16 rules	≤40030m ²	≤400m ²

	Land unit →	Community Facilities 19	Landscape Protection 20	Te Whau Peninsula 21	Western Landscape 22	Conservation Islands 23	Pakatoa Island 24	Wharf 25	Rotoroa Island 26
3.6a	Earthworks on land with a slope >1 in 6	≤50m ²	≤50m ²	≤50m ²	≤50m ²	≤5030m ²	≤50m ²	≤50m ²	≤50m ²
3.6b	Earthworks on land with a slope ≤1 in 6	≤400m ²	≤400m ²	≤400m ²	≤400m ²	≤40030m ²	≤400m ²	≤400m ²	≤400m ²

PART B: AMENDMENTS TO PART 6C – STANDARDS FOR DISCRETIONARY ACTIVITIES

- 1. Amend Clause 6C.1.1.3 Vehicle Access, by adding the following additional sentence to the first paragraph:**

Earthworks associated with driveway construction are also subject to the requirements of Clause 6C.1.3.6.

- 2. Amend Clause 6C.1.1.5 Roading, by deleting the existing paragraph C and replacing it with the following:**

C. The use, maintenance and upgrading of existing formed public roads. Provided that where earthworks are carried out erosion and sediment control methods shall be undertaken to minimise silt runoff in accordance with Annexure 1 in Part 13.

- 3. Amend Clause 6C.1.3.6 Earthworks, by deleting the existing clause in its entirety and replacing it with the following:**

Unless specified elsewhere in the Plan, earthworks which are not a permitted activity in accordance with Clause 6B.1.3.6, are a restricted discretionary activity and are to be assessed against the criteria set out below. Refer also to Rows 3.6a and 3.6b of Table 2.

Earthworks in Land Unit 16 where there is no approved Quarry Management Plan are a discretionary activity and shall be assessed in accordance with the criteria in Part 6E.

Assessment Criteria for Earthworks as a Restricted Discretionary Activity

The Council has restricted its discretion to the following matters:

- 1 The extent to which the effects of earthworks are consistent with relevant objectives and policies of the applicable Strategic Management Area and / or land unit(s);
- 2 The extent to which the earthworks can be undertaken in a manner which minimises adverse effects arising from soil erosion and the generation of sediments, taking into account:
 - the steepness of the land (slope angle and horizontal length)
 - soil type and stability
 - existing vegetation cover
 - proximity to wetland and water systems
 - proposed sediment and erosion control measures
 - the time of year and the length of time soil is likely to be exposed
 - proposed disposal of surplus soil or requirements for importing cleanfill
 - proposed reinstatement and stabilisation including planting and drainage;
- 3 The extent to which the earthworks are likely to have adverse effects on visual or other landscape qualities which cannot be avoided, remedied or mitigated having regard to:
 - proposed planting or other landscaping
 - effects on the natural character of the coastal environment
 - visibility from public places such as roads and reserves, and from coastal waters
 - the extent and depth of cut and fill;

- 4 The extent to which measures can be taken to avoid, remedy or mitigate adverse effects on adjacent sites and on public roads taking into account:
 - the hours of operation and duration of the earthworks activities
 - provision for the maintenance of public roads giving access to the site
 - road safety
 - dust mitigation measures; and
- 5 The extent to which protection and management measures can be undertaken to avoid, remedy or mitigate adverse effects on significant environmental features, wetland and water systems, sites of ecological significance, heritage items, or sites of cultural significance.

Resource Consent Conditions for Earthworks as a Restricted Discretionary Activity

In granting a resource consent the Council may impose conditions. Conditions may include any one of more of the following matters:

1. Limiting the extent and location of the earthworks;
2. Specifying the methods by which the earthworks are carried out;
3. Requiring sediment and erosion control measures to be implemented and maintained;
4. Limiting the hours of operation and the duration of the earthworks activities;
5. Requiring provision for the maintenance of public roads giving access to the site;
6. Requiring stabilisation and reinstatement including implementation of a landscaping plan within a specified period;
7. Payment of a fee to cover the costs of monitoring;
8. The imposition of a bond to ensure satisfaction of the conditions of consent;
9. Financial contributions in accordance with Part 9 of the Plan.

Non-Notification Tests for ~~of~~ Restricted Discretionary Activities

1 Great Barrier and other outer islands

The normal tests for non-notification under Sections 93 and 94 of the Act shall apply to restricted discretionary activities where more than 5000m³ of cleanfill is transported by public road to the area subject to earthworks.

Except as provided for by Section ~~94(5)~~94C(2) of the Act, other restricted discretionary activities will be considered without public notification or the need to obtain the written approval of or serve notice on affected persons.

For all restricted discretionary activities, the Council will restrict the exercise of its discretion to the matters specified in the Plan.

2 Waiheke and other inner islands

The normal tests for non-notification under Sections 93 and 94 of the Act shall apply to applications for earthworks as a restricted discretionary activity. The Council will restrict the exercise of its discretion to the matters specified in the Plan.

Bylaw and Regional Requirements

All works in flood plains and overland flow paths must comply with Part 18 of the Auckland City Consolidated Bylaw 1998, Stormwater Management.

Earthworks over 0.25ha in area, roading / tracking / trenching over 100m in length, works within floodplains or watercourses (including diversion), and cultivation of soil for commercial crop production may require resource consent from the Auckland Regional Council prior to the activity

commencing. The ARC should be contacted to determine whether a consent is required and to discuss technical requirements.

Where evidence of a burial site or any other archaeological feature is found or exposed on an area where earthworks is occurring, all work must cease immediately and the Council and Historic Places Trust be advised. On receipt of such advice it is the Council's practice to consult with the relevant authorities (Historic Places Trust, Department of Conservation, Tangata Whenua) and the owner of the property with regard to the appropriate treatment of the feature.

- 4. Amend Clause 6C.1.3.7(B) Wetlands/Water Systems Yards, by deleting the existing words 'No building shall be located within these yards' and replacing it with the following:**

No building or earthworks shall be located or undertaken within these yards.

- 5. Modify Table 2 – Standards for Non-Notified Discretionary Activities, by deleting the existing row 3.6 earthworks.**

6. Modify Table 2-3 – Standards for Non-Notified Discretionary Activities, by deleting the existing row 3.6 earthworks, and replacing it with the following rows:

	Land unit →	Coastal Cliffs	Dune Systems & Sand Flats	Alluvial Flats	Wetland Systems	Foothills & Lower Slopes	Steep Pastoral Slopes	Steep Infertile Coastal Slopes	Regenerating Slopes	Low Fertility Slopes	Forest & Bush Areas
		1	2	3	4	5	6	7	8	9	10
3.6a	Earthworks on land with a slope >1 in 6	all earthworks (**)	all earthworks (**)	>50m ² (**)	all earthworks (**)	>50m ² (**)	Great Barrier and other outer islands: >30m ² Waiheke and other inner islands: >50m ² (**)	>50m ² (**)	Great Barrier and other outer islands: >30m ² Waiheke and other inner islands: >50m ² (**)	>50m ² (**)	>50m ² (**)
3.6b	Earthworks on land with a slope ≤1 in 6	all earthworks (**)	all earthworks (**)	>400m ² (**)	all earthworks (**)	>400m ² (**)	Great Barrier and other outer islands: >50m ² Waiheke and other inner islands: >400m ² (**)	>400m ² (**)	Great Barrier and other outer islands: >50m ² Waiheke and other inner islands: >400m ² (**)	>400m ² (**)	>400m ² (**)

	Land unit →	Traditional Residential	Bush Residential	Retailing	Visitor Facilities	Industrial	Quarrying	Landscape Amenity	Outdoor Activity
		11	12	13	14	15	16	17	18
3.6a	Earthworks on land with a slope >1 in 6	>50m ² (**)	>50m ² (**)	>50m ² (**)	>50m ² (**)	>50m ² (**)	Refer LU 16 rules	>50m ² (**)	>50m ² (**)
3.6b	Earthworks on land with a slope ≤1 in 6	>400m ² (**)	>400m ² (**)	>400m ² (**)	>400m ² (**)	>400m ² (**)	Refer LU 16 rules	>400m ² (**)	>400m ² (**)

	Land unit →	Community Facilities	Landscape Protection	Te Whau Peninsula	Western Landscape	Conservation Islands	Pakatoa Island	Wharf	Rotoroa Island
		19	20	21	22	23	24	25	26
3.6a	Earthworks on land with a slope >1 in 6	>50m ² (**)	>50m ² (**)	>50m ² (**)	>50m ² (**)	>50m ² (**)	>50m ² (**)	>50m ² (**)	>50m ² (**)
3.6b	Earthworks on land with a slope ≤1 in 6	>400m ² (**)	>400m ² (**)	>400m ² (**)	>400m ² (**)	>400m ² (**)	>400m ² (**)	>400m ² (**)	>400m ² (**)

(**) Restricted Discretionary Activity (Refer clause 6C.1.3.6 Earthworks for non-notification tests)

PART D: AMENDMENTS TO PART 6D – NOTIFICATION AND INFORMATION REQUIREMENTS

1. Amend Clause 6D.2.0 Information to Accompany Applications for Resource Consents by inserting a new subclause 1K as follows:

1.K. For earthworks applications, the description of the activity shall include the following:

- a plan of the site showing the area over which earthworks will take place;
- the extent (in square metres) of the area subject to earthworks;
- information about the depth of cut and fill and likely finished contours of the land;
- information about the nature of the land subject to earthworks including slope, soil type, stability, and existing vegetation cover;
- the location of any adjacent wetland or water systems;
- a work programme outlining the duration of the works, the time of year they are expected to occur and the length of time the soil is likely to be exposed;
- details of any erosion and sediment control measures including information about methods, location, monitoring and maintenance;
- a description of any landscape or visual impacts including details of mitigation measures such as planting or other landscaping;
- the amount of fill (in cubic metres) which is proposed to be transported by public road either to or from the area subject to earthworks;
- the expected type, number and duration of heavy traffic movements;
- the means by which roads giving access to the site will be maintained and kept free from deposits of earth.

The level of detail required about erosion and sediment control measures will be dependent on the scale and significance of the actual or potential effects that the activity may have on the environment. In general, more site specific control measures, including design calculations, will be required for earthworks exceeding 400m² in area where:

- the slope of the area subject to earthworks is $\geq 15\%$ (approximately 9 degrees); or
- there is an above slope catchment of 2 hectares or more that can drain to or through the area subject to earthworks.

The purpose of design calculations is to demonstrate the adequacy of erosion and control measures having regard to catchment size and storm events.

The level of detail required about landscape or visual impacts will be dependent on the scale and significance of the actual or potential effects that the activity may have on the environment. In general, a greater level of detail will be required where the earthworks are likely to be visible from public places, such as roads and reserves, and from coastal waters.

PART E: AMENDMENTS TO PART 7 – POLICY AREAS

Amendments to Policy Area 5 - Oneroa

- 1. Amend Clause 7.5.3.1 General Rules, by deleting the first sentence of existing subclause B and replacing it with the following:**

B The erection, alteration of or addition to any buildings, or removal of any vegetation within Policy Area 5 – Oneroa, is deemed to be a controlled activity.

(the remainder of subclause B remains unchanged)

Amendments to Policy Area 7 – Okahuiti-Ostend-Tahi

- 2. Amend Policy Area 7 by inserting a new plan entitled 'Policy Area Map 7a, Okahuiti-Ostend-Tahi Sub-Areas' after the existing Policy Area Map 7.**

- 3. Amend Clause 7.7.3.1 General Rules, by deleting the existing subclause (B) and replacing it with the following:**

B The erection, alteration of or addition to any buildings, or removal of any vegetation within Policy Area 7, is deemed to be a controlled activity.

- 4. Amend Clause 7.7.3.1 General Rules, by inserting a new subclause (C) as follows:**

C The carrying out of any earthworks within the sub-areas of Okahuiti or Tahi is deemed to be a controlled activity.

- 5. Amend Clause 7.7.3.3 Controlled Activity Assessment Criteria, by inserting a new subclause (L) as follows:**

L All earthworks within the sub-areas of Okahuiti or Tahi shall be carried out so that:

- a) visual impacts and alteration to the natural landform is minimised;
- b) physical impacts such as slippage, erosion, pollution of water systems and coastal waters, are avoided;
- c) excavated material is disposed of so that (a) and (b) above are achieved;
- d) vegetation removal is minimised and revegetation with appropriate indigenous species is provided for where necessary to comply with (a) and (b) above.



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Amendments to Policy Area 8 – Rangihoua Park

6. Amend Clause 7.8.3.3 Controlled Activity Assessment Criteria by deleting the existing subclause (B)(b) and replacing it with the following:

- b) No earthworks are to be undertaken within the Recreational Amenity Area and the Landscape Amenity Area other than where a controlled activity resource consent is held.

PART F: AMENDMENTS TO PART 11 – DEFINITIONS

1. Amend the definition of earthworks contained in Part 11 by adding the following clause to the first paragraph:

- vi) cleanfill operations, involving the depositing of soil or earth onto or into land, and not including material subject to biological breakdown.

2. And by deleting the words ‘and horticulture’ after the words ‘gardening for domestic purposes’ from the final paragraph so that the remaining phrase reads:

- gardening for domestic purposes

3. And by deleting the following words from the final paragraph:

- work carried out to provide for effluent disposal systems or pile foundations for building,
- utility trenching as specified in Rule 6B.1.3.6.

4. And by inserting the following words at the end of the final paragraph:

- cultivation associated with agriculture or horticulture
- the digging of holes for the erection of posts
- the cleaning and maintenance of existing farm drains drainage canals
- the construction of new farm drains in Land Units 3 and 5 on Great Barrier Island.

PART G: INSERTION OF NEW PART 13 – ANNEXURES

1. Insert the following text in a new Part entitled ‘Part 13 Non-Statutory Annexures’, as Annexure 1 Erosion and Sediment Controls Measures Guidelines for Earthworks. This is to be inserted after the existing Part 12, Appendix H.

PART 13

NON-STATUTORY ANNEXURES





ANNEXURE 1

EROSION AND SEDIMENT CONTROL ~~MEASURES~~ GUIDELINES FOR EARTHWORKS





EROSION AND SEDIMENT CONTROL MEASURES GUIDELINES FOR EARTHWORKS

Uncontrolled earthworks activities can remove or smother valuable vegetation and cause silt runoff into streams and coastal waters. This silt can smother aquatic life and affect fish feeding and breeding areas. If a number of earthworks activities are occurring over time in the same area, there will be a cumulative impact which will compound the adverse effects on the environment.

By choosing the right methods when undertaking earthworks you can prevent unnecessary soil erosion and help the community protect the streams and coastal areas of the Hauraki Gulf Islands. This publication provides information about erosion and sediment control measures to assist you when planning and carrying out earthworks.

The landowner and the earthworks contractor are both responsible for making sure that any activity disturbing the soil is carried out in a way to prevent soil erosion and to stop sediment entering waterways.

A resource consent will be required for some earthworks, depending on the area where the work is to take place and the size of the job. You should check with the Auckland City Council to find out whether a consent is needed. For very large earthworks, works within floodplains for watercourses (including diversion) and cultivation of soil for commercial crop production, you may also require a consent from the Auckland Regional Council. The ARC has comprehensive guidelines which will be helpful for larger projects.

Regardless of the size of the earthworks, you are required to take the appropriate measures to prevent soil loss and erosion. This applies even when a resource consent is not needed.

Some facts about siltation:

- earthwork sites can produce up to 100 times as much sediment as from grassed areas;
- doubling the angle of the slope produces more than a two-fold increase in silt.

1. GENERAL GUIDELINES

- 1.1 Keep the area of earthworks small. Stage earthworks and expose only as much ground is needed at any one time.
- 1.2 Keep as much grass or natural vegetation as possible around the sides and bottom of a site. Do not mow or park machines or vehicles on this during the project.

1.3 Divert runoff around the bare areas of the site using diversion bunds / channels, or contour drains. Details on these each of these measures can be found in the section of runoff control below.

1.4 Install a stabilised entranceway (gravel/wooden planks etc) prior to commencing work to reduce dirt tracking onto the road.

1.5 Retain sediment on the site. Use earth bunds, silt ponds, silt fences or haybales and install them as close to bare areas as practicable. Details on each of these measures can be found in the section on sediment control below.

1.6 Take extra care near watercourses.

1.7 Cover any soil stockpiles or stabilise with mulch or vegetation.

1.8 Ensure that earthworks equipment is only washed in areas of the site which have appropriate sediment controls. Similarly do not leave muddy equipment standing on areas of the site which do not have appropriate sediment controls.

1.79 Retain and maintain the control measures until all bare areas on the site have been protected against erosion (by concrete pad, gravel, seal, grass, vegetation etc). Cover bare areas as quickly as possible.

1.810 At the building stage, install spouting, downpipes and temporary pipes as soon as the roof is on to convey roof water away from bare areas and to an erosion proof outfall.

2. RUNOFF CONTROL METHODS

2.1 Diversion Bunds/Channels

- a) These are used to transfer all runoff around a site, to silt ponds etc.
- b) They need to be big enough to take the flow from a 20 year storm event. The design flow, Q, can be approximated from the formula:



$$Q = 0.15 \times \text{Area (ha)} \text{ (m}^3\text{/s)}$$

Indicative channel capacities for different flows are as follows (these assume a grassed channel on a 2% grade, side slopes of 1:1 for the bund and 3:1 for the channel):

Depth (m)	Flow (m ³ /s)
0.2	0.1
0.3	0.3
0.4	0.6

- c) Soil channels that have a slope of more than 2% need to be protected (armoured) against erosion. This can be achieved by laying and pinning fabric e.g. polythene, grassing, placing rock etc.

2.2 Contour Drains

- a) These are temporary runoff control measures and are either constructed daily or in the event of rain to intercept runoff on the site.
- b) Intercepted runoff must be directed to a stable outlet.
- c) They do not need calculations for their implementation. Try to keep their grade at 2% or less, and install more drains as the land becomes steeper.



Fig 2.1

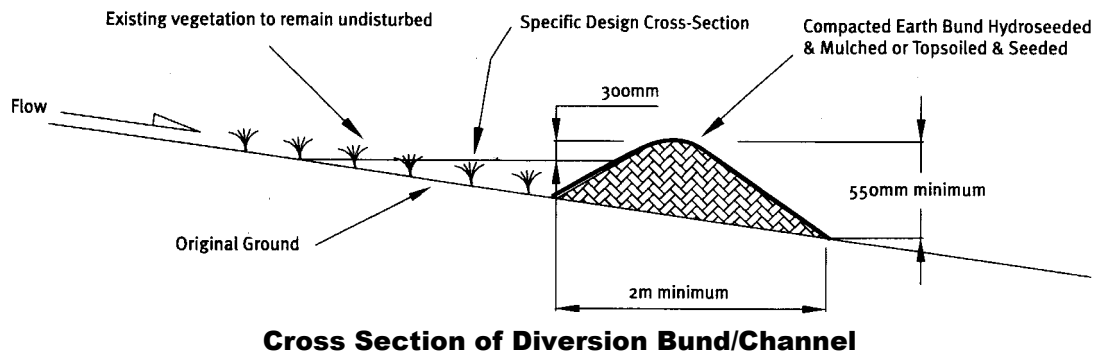


Fig 2.2

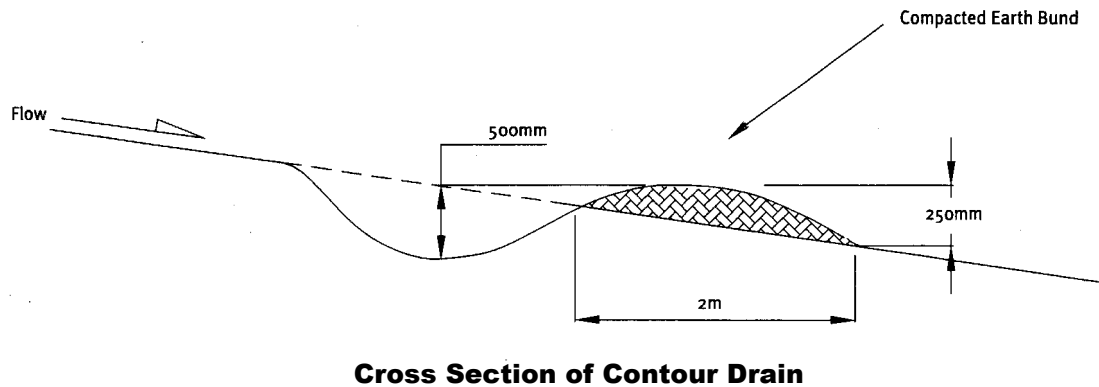
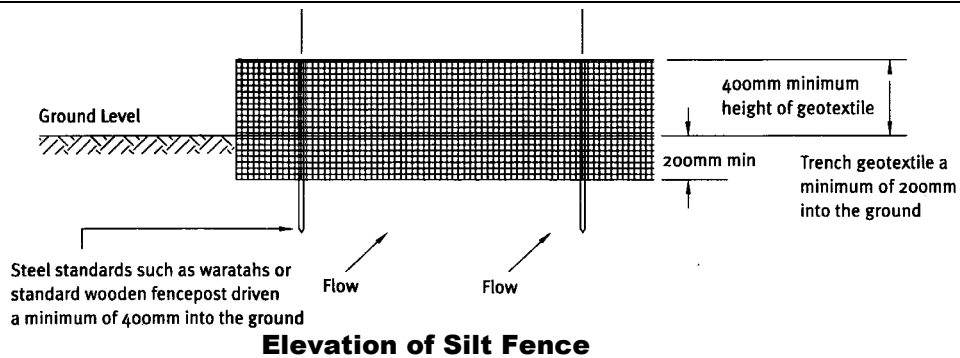
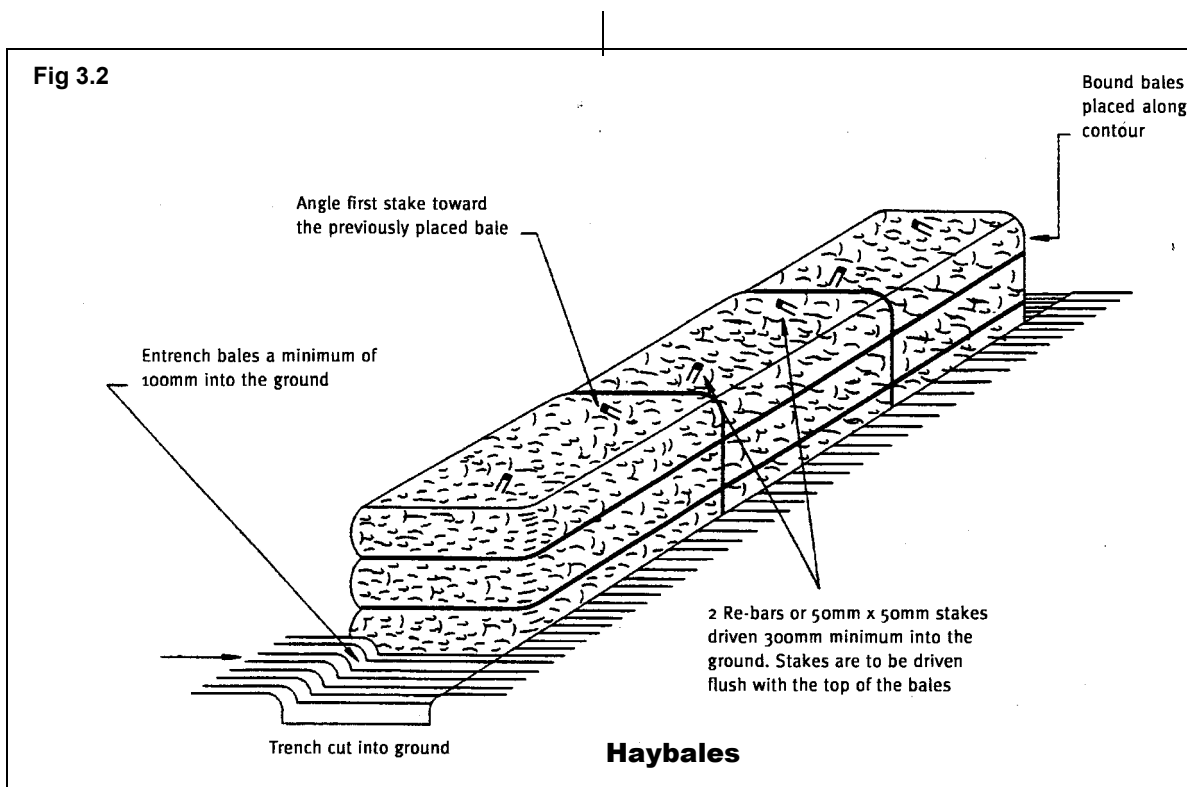


Fig 3.1





3. SEDIMENT CONTROL METHODS

3.1 Silt Fences

- For catchments of 0.5 hectares or less. Construct on the contour.
- Make sure that the fabric is well dug in (200 mm deep and backfilled).
- Posts/waratahs should be no more than 2 metres apart.
- The fences can be strengthened with tensioned wire, and with chain mesh netting.

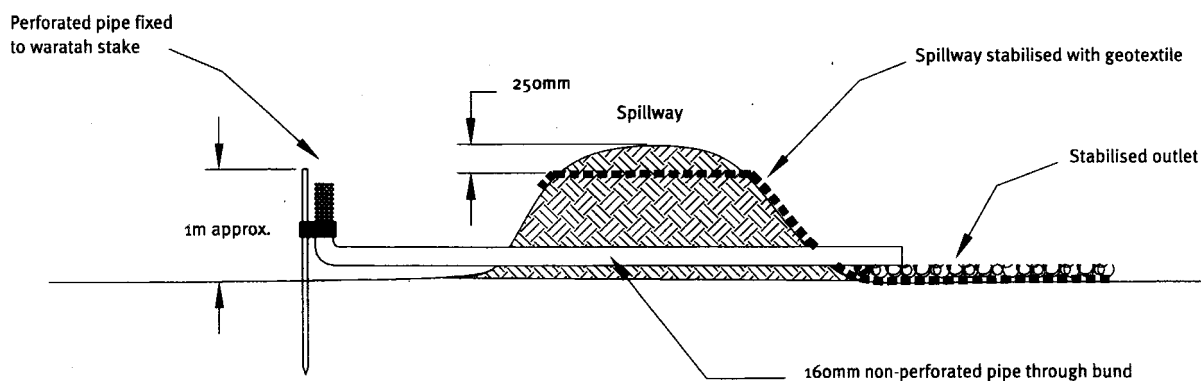
3.2 Haybales

- These should be used only when there is 20 metres or less length of slope above them and where the slope is less than 20%.
- They should be placed on the contour and anchored by staking.

3.3 Earth Bunds

- These are mini silt ponds to retain sediment.
- Catchment should be 0.3 hectares or less.
- They should be cleaned out when 20 % full of deposited sediment.

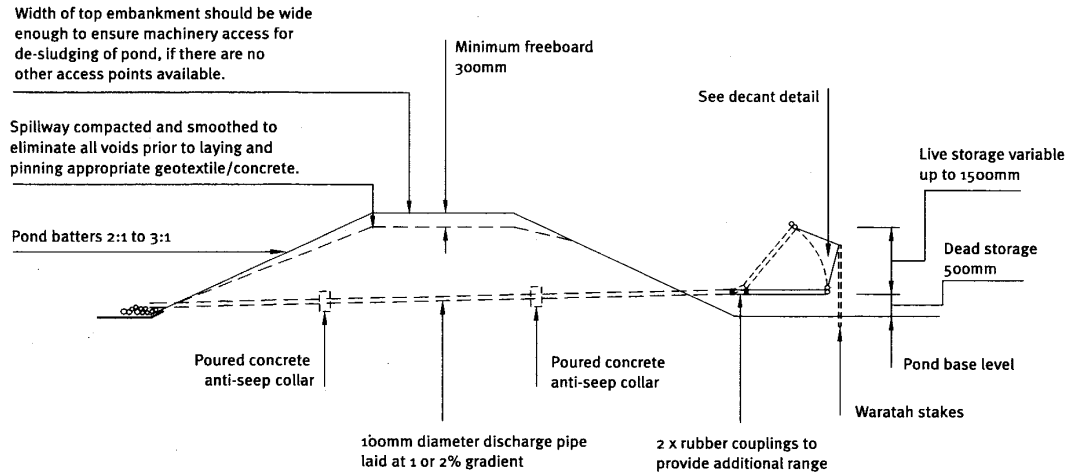
Fig 3.3



Cross Section of Earth Bund

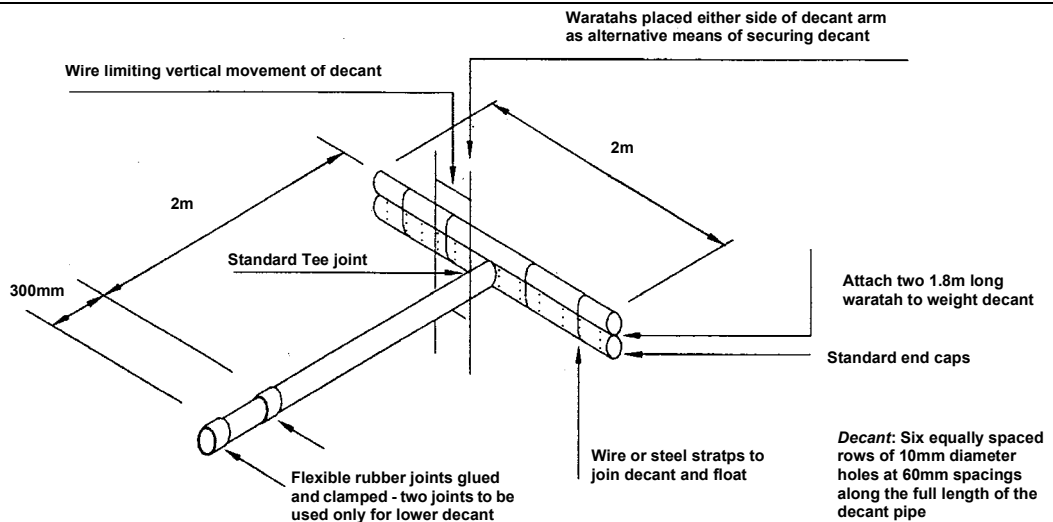


Fig 3.4 a)



Cross Section of Sediment Pond

Fig 3.4 b)



Decant Detail

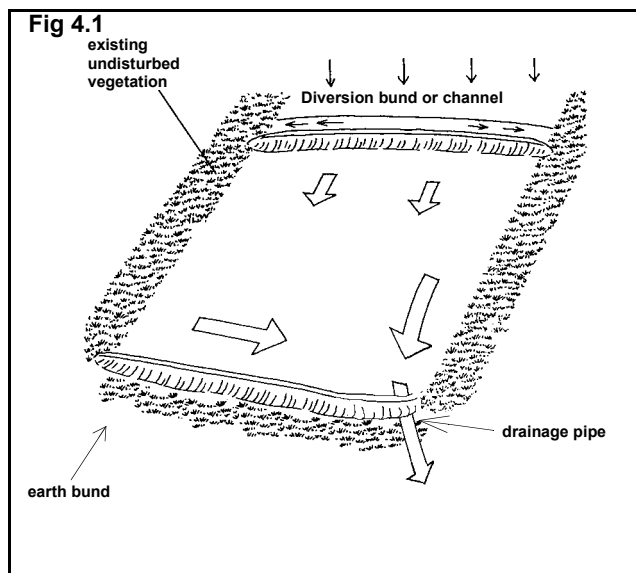
3.4 Sediment Ponds

- These are used when catchments are greater than 0.3 hectares.
- The maximum catchment should be 5 hectares.
- Do not construct in streams.
- Capacity is generally 2m^3 per 100m^2 of site area.
- They should be cleaned out when 20% full of deposited settlement.



4. APPLICATION TO TYPICAL HOUSE SITE

Fig 4.1 shows how the runoff and sediment controls can be applied to a typical house site.



5. KEEPING THE ROADS CLEAN

It is important that soil from the site is not spread onto the road by vehicle tyres. To prevent this from occurring a stabilised entranceway must be built. The simplest method is to spread metal aggregate on all exitways from the site, where the soil will have a chance to fall off before the vehicle enters the road. Other methods for larger sites are cattle grids or wheel washes. The site manager or site owner is responsible for cleaning up any spilt soil to other materials that get on to the road from the site. Remember also to protect the footpath, berm and kerb from damage by crossing vehicles.

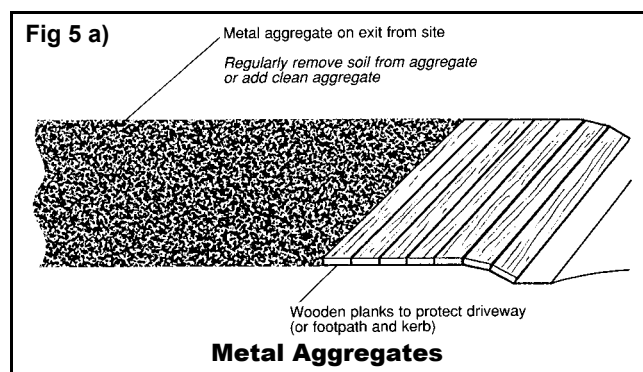
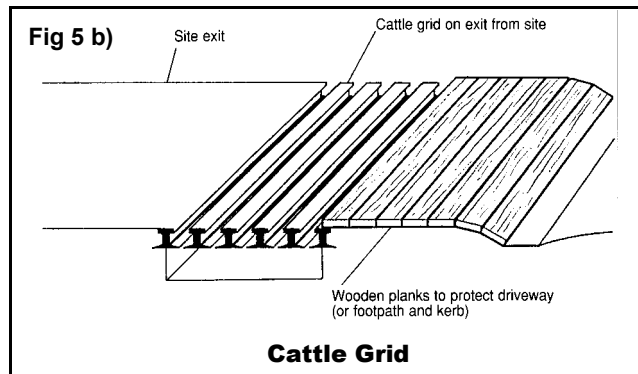


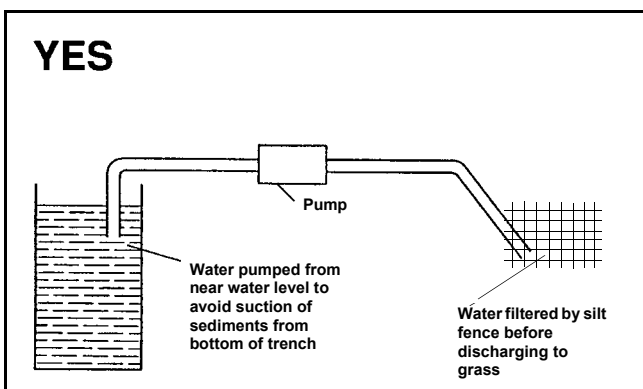
Fig 5 b)



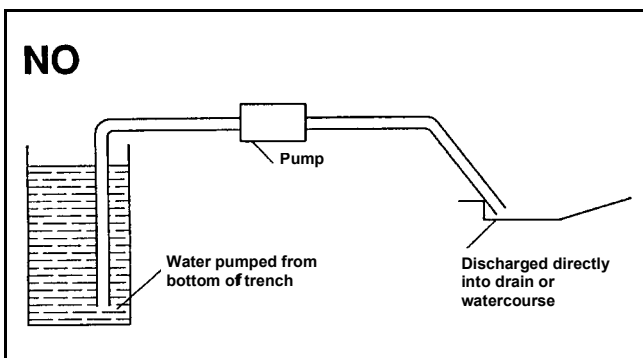
6. PUMPING WATER FROM THE SITE

If it is necessary to remove water from trenches or other areas of the site, then this should be done in a manner to prevent sediment in the water from entering any drain or watercourse. Water should not be taken from the bottom of any trench and sediment should be properly filtered out from the dirty water by some appropriate means such as the use of silt fences. It will often be necessary to pump water into a tank and discharge it into a silt pond.

YES



NO



7. ADDITIONAL INFORMATION

For more details about erosion and sediment control measures, see the Auckland Regional Council publication “Erosion and Sediment Control Guidelines for Land Disturbing Activities in the Auckland Region” (Technical Publication Number 90).

