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# NH Natural Hazards

## Management of Flood Hazards and Land Drainage

### Issues

NH I 1 (Issue 37) **Human life, property and ecosystems in the region can be adversely affected by flood hazards, and land use and development may take place without due recognition of the hazard.**

*Objective* NH O1  
*Policy* NH P1, NH P3  
*Method* NH M2, NH M3, NH M4, NH M5, NH M9

NH I 2 (Issue 38) **Flood hazard mitigation works can be vulnerable to damage from land use and development activities, and this may reduce the protection provided by the mitigation works.**

Land use and development activities that may damage flood hazard mitigation works include earthworks and encroaching development. Activities in floodways, such as building construction or inappropriate planting of vegetation, can also reduce the effectiveness of the system by slowing water flows or causing sedimentation or erosion.

*Objective* NH O3  
*Policy* NH P2  
*Method* NH M1, NH M6, NH M7

NH I 3 (Issue 39) **The operation and maintenance of river schemes and land drainage schemes is necessary to maintain the integrity of the schemes, but can also have adverse effects on the environment, including heritage values and ecosystems.**

Maintenance activities may disturb the beds of rivers and streams, release sediment, introduce or remove plants from the beds of rivers and streams, install or maintain structures (such as rip-rap), and alter aquatic habitat characteristics and heritage value. However, maintenance activities are necessary to protect scheme assets and avoid or mitigate the effects of flooding on property.

*Objective* NH O2  
*Policy* NH P4, NH P5  
*Method* LM M18, LM M19, IM M15, NH M8  
*Rule* DW R1, DW R12, DW R3, DW R5, DW R8, WQ R13, WQ R15, BW R35, NH R1, BW R36  
*Schedule* 5, 6

### **Objectives**

- NH O1 (Objective 49) The effects of flood hazards on the region's people, communities, and natural and physical resources are avoided or mitigated.
- NH O2 (Objective 50) The adverse environmental effects of flood hazard mitigation works, including river and land drainage schemes are avoided, remedied or mitigated.
- NH O3 (Objective 51) Flood hazard mitigation works that are agreed by the community as being necessary are not threatened by inappropriate land use activities.

#### Cross-Reference

Also refer to BW O1.

### **Policies**

- NH P1 (Policy 87) To adopt and promote an integrated, catchment-based approach to flood hazard mitigation.
- NH P2 (Policy 88) To co-operate with the city council and district councils to ensure that flood hazard mitigation works and flood paths are protected from inappropriate land use activities.
- NH P3 (Policy 89) To promote the wide availability of flood hazard information, to enable organisations and individuals to make sound decisions based on the best available information.
- NH P4 (Policy 90) To require river schemes and land drainage schemes to be constructed, operated and maintained to:
- (a) Avoid adverse effects on significant heritage values. Where existing works are having adverse effects on such values, the effects are to be remedied or mitigated.
  - (b) Avoid, remedy or mitigate adverse effects on the environment while maintaining the integrity of the scheme.
  - (c) Remedy adverse effects on natural character, and terrestrial and aquatic habitats, where practicable.
- NH P5 (Policy 91) To recognise that some maintenance activities of river schemes and land drainage schemes have short-term adverse effects on the environment, but can have long-term benefits for flood and erosion mitigation, the protection of community assets, and environmental quality.

#### Cross-Reference

Also refer to BW P3.

### **Methods of Implementation**

The Regional Council will:

#### *Education, Promotion and Provision of Information*

- NH M1 (Method 189) Raise community awareness of the restrictions on activities in relation to flood hazard mitigation works and flood paths.
- NH M2 (Method 190) Provide advice about flood hazards to the city council and district councils, other organisations and members of the public in response to requests, where such information is held by The Regional Council.

### *Working with Other Resource Management Agencies and the Community*

NH M3 (Method 191) Continue to develop floodplain management strategies for catchments containing river and drainage schemes administered by the Regional Council, with full involvement of the relevant city council or district council and the community.

#### *Advocacy*

NH M4 (Method 192) Advocate that the city council and district councils use the provisions of the Building Act 2004 and suitable provisions in district plans, to avoid the location of major structures (including dwellings, buildings, septic tanks, and infrastructure) and flood-sensitive land uses:

- (a) Within the 2% AEP ('Annual Exceedance Probability') flood level of individual lakes, streams and rivers, as a minimum.
- (b) On other flood prone land.

Greater restrictions may be appropriate for some particularly flood-sensitive land uses. NH M5 may not apply where adequate flood mitigation measures are provided.

NH M5 (Method 193) Advocate that the city council and district councils take the lead in developing integrated responses to flood hazards outside the major river and land drainage schemes, and support the city council and district councils in these processes.

NH M6 (Method 194) Advocate that the city council and district councils protect flood hazard mitigation works and flood paths not administered by the Regional Council from activities that threaten their integrity and effectiveness, through district plan rules or bylaws as appropriate.

#### *Regulatory Methods*

NH M7 (Method 195) Protect flood hazard mitigation works and flood paths administered by The Regional Council from activities that threaten their integrity and effectiveness, through regional plan rules or bylaws as appropriate.

NH M8 (Method 196) Require the administrators of river schemes defined in Schedule 5, and land drainage schemes where the canals are identified in Schedule 3, to:

- (a) Implement the Environmental Code of Practice for Rivers and Drainage Maintenance Activities, 2001<sup>38</sup> that is consistent with the requirements of this regional plan, and includes the following matters:
  - (i) Principles of river and drainage scheme maintenance to avoid, remedy or mitigate adverse effects on the environment. Operational procedures that comply with the principles of river and drainage scheme maintenance are to be appended to the code of practice in recognition that the operational procedures are best management practices and will be continually improved in relation to (iv).
  - (ii) Consultation processes with tangata whenua, property owners, and other resource management agencies, including Department of Conservation and Fish and Game New Zealand, and operators of hydro-generation schemes that are within river scheme maintenance areas. Administrators are encouraged to consult with the wider community where contentious issues arise.

<sup>38</sup> Crabbe, B., and Ngapo, N., 2001. Environmental Code of Practice for Rivers and Drainage Maintenance Activities. Environment Bay of Plenty Operations Report 2001/01.

- (iii) Self-monitoring procedures.
  - (iv) Continual improvement processes to avoid, remedy or mitigate the adverse environmental effects of maintenance practices.
  - (v) Other information that the river scheme administrator considers appropriate.
- (b) Identify areas within the maintenance area of the scheme where aquatic habitat characteristics (including fish passage), terrestrial habitat in riparian areas, and natural character can, where practicable, be enhanced.
  - (c) Manage the watercourses that are part of drainage schemes as identified in Schedule 3 in a manner that recognises, and where practicable enhances their ecological values.
  - (d) Develop and implement planting strategies in river schemes that consider the use of alternatives to invasive species, including some willows. This will include:
    - (i) Rationalised use of willow species for erosion control, ensuring the correct selection of willow varieties, and limiting the use of willows to locations where other species are not appropriate.
    - (ii) Use of indigenous species, and the use of eco-sourced vegetation where and when it is available.
  - (e) Ensure maintenance regimes are adopted and adhered to where plantings have been made for erosion control purposes.
  - (f) Provide for public access points to the margins of rivers and streams in areas where plantings have been, or are being made for erosion control purposes. This only applies where there is existing authorised public access in such areas, or where requested by private property owners.

Cross-Reference

Also refer to LM M18 and LM M19, DW R1, DW R3, DW R5, WQ R13, WQ R15, BW R1, BW R34, BW R35, WQ R22, BW R36.

*Monitoring and Investigation of the Environment*

NH M21 (Method 197)

Undertake investigations into specific flood hazard issues, including but not limited to the effects of climate change on flooding occurrence, in co-operation with city and district councils, if appropriate.

Cross-Reference

Also refer to IM M15.

**Rules***Maintenance of River Schemes and Land Drainage Schemes***Advisory Note**

- 1 Other maintenance activities are addressed by the following rules:
  - Use of agrichemicals for spraying weeds in or near surface water – DW R1.
  - Removal of plants (including weed cutting boats) – BW R35.
  - Earthworks – LM R1 to LM R4.
  - Vegetation disturbance on land – LM R7 to LM R10.
  - Maintenance of existing flood control structures – BW R1.
- 2 This regional plan does not regulate the maintenance of artificial watercourses, except where there is a discharge from the artificial watercourse into a stream, river, lake or wetland. DW R1 and DW R12 apply where aquatic herbicides or agrichemicals are used.

**NH R1 (Rule 70) Permitted – Maintenance of River Schemes**

Any disturbance of the bed of a stream, river or lake for the purpose of maintaining a River Scheme to its design standard where:

- 1 The activity is carried out by a river scheme administrator or its contractor exercising its functions under the Soil Conservation and Rivers Control Act 1941, and
- 2 The activity is within an existing River Scheme Maintenance Area as defined in Schedule 5, and
- 3 The activity is not part of new capital works,

Is a permitted activity subject to the following conditions:

- (a) Except in relation to (f), no works shall occur in the wet part of the bed of a stream or river identified in Schedule 1 during the spawning or migration periods of the species identified as present in the water body. Spawning and migration periods are identified in Schedule 2.
- (b) The activity shall comply with the principles of the Environment Bay of Plenty Environmental Code of Practice for River and Drainage Maintenance Activities (2001)<sup>39</sup>.
- (c) The river scheme administrator shall maintain a register of all works carried out, detailing the type of works, location of the works and dates when the works were undertaken.
- (d) Any derelict structures including erosion protection works shall be removed.
- (e) Any works shall be maintained at all times in a sound condition for the purpose for which the works are designed.
- (f) Maintenance works shall only be carried out in the wet part of the bed of the river during the exclusion periods in relation to (a) where there is an emergency situation that is impairing the flood control function of the scheme. The river scheme administrator shall inform the Regional Council, and the Department of Conservation within 24 hours of the beginning of the works.
- (g) The disturbance of the bed shall be limited to the extent necessary to carry out the activity.
- (h) The activity shall not cause or induce erosion of the bed or banks of any surface water body. Erosion includes:
  - (i) Instability of land or the banks of the surface water body.
  - (ii) Scour to the bed of the surface water body.
- (i) The activity shall not disturb vegetation in a wetland, or change the water flow or quantity, or water quality in a wetland.
- (j) The activity shall not prevent the passage of migrating fish.
- (k) The activity shall not compromise the structural integrity or use of any other authorised structure or activity in the bed of the stream, river or lake, including flood control works in River Scheme Works Areas (defined in Schedule 5).
- (l) The activity shall not cause a hazard to navigation in navigable rivers and lakes.
- (m) All machinery shall be kept out of the bed of the stream, river or lake where practicable.
- (n) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.
- (o) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited into a water body or placed in a position where it could readily enter or be carried into a water body.

**Explanation/Intent of Rule**

The coverage of this rule includes channel works and other activities in the bed of a stream, river or lake within a River Scheme Works area as defined in Schedule 5. This rule recognises that ongoing works are necessary to maintain the flood mitigation function of river schemes. Any activities associated with new capital works require a resource consent.

<sup>39</sup> Crabbe, B, and Ngapo, N, 2001. Environmental Code of Practice for Rivers and Drainage Maintenance Activities. Environment Bay of Plenty Operations Report 2001/01.

**NH R2 (Rule 70A)****Permitted – Maintenance of Identified Streams and Rivers (including modified watercourses)**

Any disturbance of the bed of a stream or river (including modified watercourses) that is listed below in Table NH 1 and the activity is necessary for the purposes of maintaining the land drainage function of the stream or river, is a permitted activity subject to the following conditions:

- (a) The activity shall be limited to the excavation of the bed of the stream or river to remove excess sediment, and removal of vegetation from the bed of the stream or river to maintain water flow.
- (b) The activity shall not widen the existing bed of the stream or river.
- (c) All practicable steps shall be taken to avoid deepening the stream or river and disturbing of the banks of the watercourse beyond the extent necessary to carry out the activity.
- (d) Where practicable, a sediment settling area that is slightly deeper than the bed of the stream or river shall be excavated at the downstream end of the work area prior to the activity occurring.
- (e) The activity shall not cause or induce erosion of the bed or banks of any surface water body. Erosion includes:
  - (i) Instability of land or the banks of the surface water body.
  - (ii) Scour to the bed of the surface water body.
- (f) The activity shall not disturb vegetation in a wetland, or change the water flow or quantity, or water quality in a wetland.
- (g) The activity shall not compromise the structural integrity or use of any other authorised structure or activity in the bed of the stream or river, including flood control works in River Scheme Works Areas (defined in Schedule 5).
- (h) The activity shall not alter the existing course of the stream or river.
- (i) All machinery shall be kept out of the bed of the stream or river where practicable.
- (j) The disturbance of the bed shall be limited to the extent necessary to carry out the activity.
- (k) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.
- (l) All dredged material, sediment or plant material, shall be removed from the stream or river and placed in a stable position, and all reasonable steps shall be taken to prevent the dredged material, sediment or plant material from entering the stream or river.
- (m) The activity shall not cause flooding or ponding on any land or property owned or occupied by another person whose land would not naturally carry water during storm or flood events.
- (n) The activity shall not prevent the passage of migrating fish.
- (o) Except in relation to (p):
  - (i) No works shall be carried out in tidal reaches of rivers and streams between 1 March and 31 May.
  - (ii) No works shall be undertaken in the bed of a water body listed in Schedule 1D between 1 May and 30 August.
  - (iii) No works shall be undertaken in the bed of a water body listed in Schedule 1A between 15 August and 15 October.
- (p) Maintenance works shall only be carried out in the wet part of the bed of the stream or river during the exclusion periods specified in (p) above, where either (i) or (ii):
  - (i) There is a silt deposition in the stream or river caused by a storm or runoff from upper catchment areas that is causing flooding.
  - (ii) It is necessary to maintain the original alignment of the stream to avoid or repair erosion.
- (q) Where works are carried out under (p), the landowner shall inform the Regional Council and the Department of Conservation 24 hours before the beginning of the works.

Table NH 1 Streams and Rivers for NH R2

	Stream or River	Main Stem or Tributary	Extent - GPS Co-ordinates
	<b>Ohiwa Harbour Catchment</b>		
1	Tunanui Stream	Main stem	From Coastal Marine Area upstream to 2865437, 6347491
2	Waiotane Stream	Main stem	From Coastal Marine Area upstream to 2865391, 6345722
3	Waiotane Stream	Unnamed south east tributary	From 2865391, 6345722 upstream to Department of Conservation reserve boundary
4	Waiotane Stream	Unnamed north east tributary	All upstream from 2865442, 6345814
5	Unnamed tributary of Ohiwa Harbour, east of Waiotane Stream	Main stem	All upstream from Coastal Marine Area
6	Wainui Stream	Main stem	From Coastal Marine Area to 2867249, 6344757; and 2867249, 6344757 to 2867054, 6344624
7	Wainui Stream	Unnamed east tributary	All upstream of 2867249, 6344747
8	Wainui Stream	Unnamed south tributary	From 2867249, 634474 to 2867311, 6344273
9	Wainui Stream	Unnamed western tributary	From 2867171, 6345558 to 2866515, 6345125
10	Wainui Stream	Tributary of Unnamed western tributary	From 2866783, 6345249 to 2866456, 6343913
11	Ouaki Creek	Main stem	From Coastal Marine Area to 2869502, 6345252
12	Unnamed tributary of Ohiwa Harbour, west of Te Awawairoa Stream	Main stem	From Coastal Marine Area to 2872235, 6343504
13	Te Awawairoa Stream	Main stem	From Coastal Marine Area to 2873062, 6342704
14	Kutarere Stream	Main stem	From Coastal Marine Area to SH 2 bridge
15	Unnamed tributary of Ohiwa Harbour, east of Kutarere Stream	Main stem	From Coastal Marine Area 2874518, 6342200
16	Te Kakaha Stream	Main stem	From Coastal Marine Area to 2874968, 6342025
17	Nukuhou River	Unnamed tributary – west	From 2872554, 6340377 to 2872266, 6340571
18	Nukuhou River	Unnamed tributary – east	From 2872554, 6340377 to 2872983, 6340242
19	Nukuhou River	Unnamed tributary – west	From 2872466, 6340112 to Kererutahi Forest Boundary
20	Nukuhou River	Unnamed tributary – east	From 2872590, 6339430 to 2872895, 6339477
21	Nukuhou River	Unnamed tributary – west	From 2872748, 6338290 to Kererutahi Forest Boundary
22	Nukuhou River	Unnamed tributary – west	From 2873066, 6337878 to Kererutahi Forest Boundary
23	Nukuhou River	Unnamed tributary – east	From 2873268, 6338231 to 2873595, 6338879, including eastern tributary starting 2873413, 6338329; and from

	Stream or River	Main Stem or Tributary	Extent - GPS Co-ordinates
			2873595, 6338879 to 2873724, 6338705; and all upstream of 2873777, 6339315
24	Nukuhou River	Matahaka River main stem	From 2873769, 6336800 to 2873860, 6336489; and from 2874035, 6335640 to 2874156, 6335412
25	Nukuhou River	Unnamed tributary – east	From 2873170, 6336406 to 2873132, 6335731
26	Nukuhou River	Unnamed tributary – east	From 2872563, 6334737 to 2872783, 6334365
27	Nukuhou River	Arawhatawhata Stream – unnamed tributary	All upstream from 2870290, 6331188
28	Nukuhou River	stream – unnamed tributary	All upstream from 2870118, 6330618

### Advisory Note

- 1 This rule does not apply to the maintenance of artificial watercourses, which are not regulated by this regional plan. People undertaking maintenance activities in artificial watercourses should consider the implications of DW R3. It may be necessary to use appropriate measures to prevent the discharge of sediment to streams, rivers and lakes from the maintenance of artificial watercourses in order to comply with DW R3.
- 2 NH R2 does not apply to parts of the listed streams and rivers that are in the Coastal Marine Area.

### Explanation/Intent of Rule

This rule covers the maintenance of listed streams and rivers (including modified watercourses) for channel capacity and stability purposes. This rule recognises that maintenance activities are necessary for land drainage purposes. Aquatic habitat values can be maintained where maintenance works are managed in accordance with the rule conditions.

### NH R3 (Rule 70B)

#### Permitted – Maintenance of Land Drainage Canals

Any disturbance of the bed of a modified watercourse that is a land drainage canal listed below in Table NH 2, and the activity:

- 1 Is for the purpose of maintaining the land drainage canal to its design standard as stated in a management plan or asset management plan and are part of land drainage works, and
- 2 Is not part of new capital works,

Is a permitted activity subject to the following conditions:

- (a) The activity shall not cause or induce erosion of the bed or banks of any surface water body. Erosion includes:
  - (i) Instability of land or the bank of the surface water body.
  - (ii) Scour to the bed of the surface water body.
- (b) The activity shall not disturb vegetation in a wetland, or change the water flow or quantity, or water quality in a wetland.
- (c) The activity shall not prevent the passage of migrating fish.
- (d) The activity shall not compromise the structural integrity or use of any other authorised structure or activity in the bed of the stream, river or lake, including flood control works in River Scheme Works Areas (defined in Schedule 5).
- (e) The activity shall not cause a hazard to navigation in navigable rivers and lakes.
- (f) The activity shall not alter the natural course of the river.

- (g) All machinery shall be kept out of the bed of the stream, river or lake where practicable.
- (h) The disturbance of the bed shall be limited to the extent necessary to carry out the activity.
- (i) No machinery refuelling or fuel storage shall occur at a location where fuel can enter any water body.
- (j) All practicable measures shall be taken to avoid vegetation, soil, slash or any other debris being deposited into a water body or placed in a position where it could readily enter or be carried into a water body during the activity.
- (k) The land drainage scheme administrator shall, within six (6) months of the date that this regional plan becomes operative, provide the Regional Council with a copy of a management plan or asset management plan for the scheme that contains the design standards to which the land drainage canals will be maintained.
- (l) The activity shall not cause or lead to erosion in the Coastal Marine Area.
- (m) The activity shall comply with the principles of the Environment Bay of Plenty Environmental code of Practice for River and Drainage Activities (2001).
- (n) The scheme administrator shall maintain a register of all works carried out, detailing the type of works, location of the works and dates when the works were undertaken.
- (o) All dredged material, sediment or weeds, shall be removed from the water body and placed in a stable position, and all reasonable steps shall be taken to prevent the dredged material, sediment or weed from entering the canal.
- (p) No works shall be carried out in the wet part of the bed of the canal during the exclusion periods specified below in Table NH 2, except in relation to (q).
- (q) Maintenance works shall only be carried out in the wet part of the bed of the canal during the exclusion periods specified in Table NH 2 where there is a major silt deposition in the canal caused by a storm or excessive runoff from upper catchment areas that is impairing the drainage function of the scheme. The land drainage scheme administrator shall inform the Regional Council and the Department of Conservation within 24 hours of the beginning of the works.

Table NH 2 Exclusion Periods for Canal Maintenance Works

	Canal	Exclusion Period
	<b>Rangitaiki Plains</b>	
1	Awaiti Canal	1 June to 31 December inclusive
2	Omeheu Canal	1 February to 31 May inclusive
3	Awakaponga Canal and Drain	1 September to 31 December inclusive
4	Waikamihī Stream	1 August to 31 December inclusive
5	Mangaone Stream	1 February to 14 June <b>and</b> 1 September to 31 December inclusive
6	Western Drain	1 September to 31 December inclusive
7	Ngakauroa Drain/Stream	14 April to 14 June <b>and</b> 1 September to 31 December inclusive
8	Te Rahu Canal	1 September to 31 December inclusive
9	Otarere Drain/Stream	1 September to 31 December inclusive
10	Orini Canal	No exclusion period
11	Reid's Central Canal	1 August to 31 December inclusive
	<b>Kaituna</b>	
12	Kopuroa/Kopuaroa Canal	1 September to 31 December inclusive

	Canal	Exclusion Period
13	Ohineangaanga Canal	1 August to 31 December inclusive
14	Raparapahoe Canal	1 September to 30 November inclusive
15	Waiari Stream	1 September to 31 December inclusive
	<b>Little Waihi</b>	
16	Kaikokopu Canal	1 March to 31 May inclusive <b>and</b> 14 August to 14 October inclusive
17	Pongakawa Canal	
18	Pukehina Canal	
19	Wharere Canal	
	<b>Waioeka/Otara</b>	
20	Kukomoa Creek	1 September to 31 December inclusive
21	Te Karaka Creek	No exclusion period
	<b>Waihi Beach</b>	
22	2 Mile Creek	1 February to 31 May inclusive <b>and</b> 1 August to November inclusive
23	3 Mile Creek	
	<b>Waiotaha Drainage District</b>	
24	Waiotaha Main Drain	No exclusion period
	<b>Tauranga City</b>	
25	Kulim Ave - Bureta Road/ Golf course, Vale St-Bureta Road	No exclusion period.
26	Rosewood Flow Channel	
27	Sherwood Street	
28	Carmichael East	1 February to 15 August inclusive, and 1 September to 31 December inclusive
29	Castlewood Drive	No exclusion period.
30	Kingswood Road	
31	Humber Cres Amenity Reserve, Road Reserve, Watling Street	No exclusion period.
32	Bruce R/SH2, Mangatawa-SH2, Railway, Farmlands	
33	Pattersons	
34	Vale St	
35	Maxwells Road	
36	Solomon Street	
37	Russel Place	
38	Montgomery Street	
39	Birch Avenue	
40	Seventeenth Avenue – Golf Range to Clark Street; Historic Village/17 <sup>th</sup> Avenue, Rear Historic to Kopurereua	
41	Brook Street	
42	Maleme Street – East to Oropi Road and West	
43	Harrisfield Drive	
44	Owen Park	
45	Tara Road North and South	

	Canal	Exclusion Period
46	Harrisons Cut	
47	Beachwaters	
48	Southern Outlet/Te Maunga Farmland and Golf Course	
49	Christie	
50	Airport	
51	Maru Street/AgriBalance	
52	Te Maire Street	
53	Triton Avenue	
54	Pacific Cove periphery; Pacific Cove to Domain Road	
55	Taiaho Place	
56	Kaitemako Stream between the Welcome Bay Road bridge and Lochinvar Place	1 February to 31 May inclusive <b>and</b> 1 August to 31 December inclusive
57	Wairakei Stream	1 February to 31 May inclusive <b>and</b> 1 August to 31 December inclusive

### Advisory Note

- 1 This rule does not apply to the maintenance of drains, which are not covered by this regional plan. People undertaking drain maintenance activities should consider the implications of DW R3 – discharges from farm drains. It may be necessary to use appropriate measures to prevent the discharge of sediment to streams, rivers and lakes from drain maintenance activities in order to comply with DW R3.

### Explanation/Intent of Rule

In relation to condition (k), many if not all of the canals listed in Table NH 2 will already have management plans or asset management plans. Six months is a realistic period to prepare a management plan or asset management plan, for those areas where such a plan is not already in place. The coverage of this rule includes the cleaning and dredging canals, and the grading of slopes of canals. This rule recognises that canal maintenance activities are necessary to effectively operate existing land drainage schemes, and retain or improve water quality. Aquatic habitat values can be maintained where maintenance works are managed appropriately.