

Appendix A

Statutory Framework for Comprehensive Stormwater Catchment Management

1.0 FRAMEWORK FOR COMPREHENSIVE STORMWATER CATCHMENT MANAGEMENT

Both the Auckland Regional Council (ARC) and Manukau City Council (MCC) have statutory responsibilities in relation to the management of stormwater drainage and flood control.

The recommended procedure for effective execution of such responsibilities is described in the Guidelines for Comprehensive Catchment Discharge Consents (ARC, January 2001).

These guidelines have been developed for use by Territorial Local Authorities (TLAs) to assist with the process relating to applications for Comprehensive Catchment Stormwater Discharge Consents (CCDC). Refer to the following section on ARC Environmental Management Division Responsibilities.

1.1 COMPREHENSIVE CATCHMENT MANAGEMENT PLANNING

The aim of Comprehensive Catchment Management is to identify and manage the variety of stormwater management issues present in a catchment. This does not simply focus on flooding issues but may also encompass water quantity, quality and may include aquatic resource protection.

It provides information upon which future planning policies are based and recommendations made for protection works where problem areas are identified, under both existing and future development patterns.

A particular feature of the management plan approach is that the impact of future development, can be examined, and if in conflict with the desired objectives in other parts of the catchment, can be modified. This approach avoids piecemeal, often counter-productive solutions to individual problems.

The production of a Comprehensive Catchment Management Plan (CCMP) consists of two parts. The first part, the Catchment Study (or the Issues and Management Plan Options as in this case), provides the detailed technical information required to prepare the Management Plan.

The second stage involves the production of a Management Plan. The aim of the Management Plan is to provide a flexible framework for integrating the management of resources – land, ecological, biological, water, infrastructure, human, economic – for an entire catchment.

The Management Plan may then be used along with other factors to guide development within the catchment. It will also form the basis for obtaining a Comprehensive Catchment Stormwater Discharge Consent from the ARC.

1.2 CITY OR DISTRICT COUNCIL RESPONSIBILITIES

The Territorial Local Authority (TLA) is responsible for administering the provisions of the Local Government Act 1974, the Resource Management Act 1991, and the Building Act 1992.

Specific responsibilities in relation to stormwater drainage and flood control are:

- Control of subdivision, building and earthworks standards so as to minimise problems on flood prone land or adverse effects to other property.
- Control of nuisances and inappropriate interference with watercourses.
- Maintenance of public drains and watercourses.
- Undertaking of works to improve drainage and flood control.
- Avoidance or reduction of danger, damage or nuisance caused by events such as flooding, landslips, subsidence and silting (i.e. mitigating adverse effects).

1.3 ARC ENVIRONMENTAL MANAGEMENT DIVISION RESPONSIBILITIES

This Division functions and has specific duties under the Resource Management Act 1991. Its general responsibilities in relation to management of stormwater drainage and flood control are:

- To minimise and prevent damage by floods and by erosion.
- To carry out the investigation and design of measures for the purpose of preventing or reducing damage by floods.
- To ensure, through the discharge permit process that stormwater from development does not create or worsen flooding and erosion problems or create other adverse effects on the environment.
- To supervise river and drainage works by TLAs and to guide TLAs with respect to their powers and duties as regards river and drainage works.

1.4 ARC OBJECTIVES AND POLICIES

The ARC recognises that water quality issues, the control of flooding and responsibility for watercourses within the Auckland region is shared jointly by the ARC and the TLAs. There are a number of statutory documents that provide objectives and policies to guide the local authorities in the exercise of their shared duty. These are referred to below:

1.4.1 Auckland Regional Policy Statement 1999 (ARPS)

Strategic Direction Objective 2.5.1.8 of the ARPS is “to manage the Region’s natural and *physical resources in an integrated manner*” and this is supported by Policy 2.5.2.7 which states that “*the use, development and protection of the Region’s natural and physical resources is to be managed in an integrated manner, so that adverse effects, including significant cumulative adverse effects, that range across resources or cross jurisdictional boundaries are avoided, remedied or mitigated*”.

Chapter 8 of ARPS relates to Water Quality and at 8.3-1 contains the objective “ *To maintain water quality in water bodies and coastal waters which have good water quality, and to enhance water quality which is degraded particularly for the following purposes:*

- (i) *Estuaries and harbours: protection of aquatic ecosystems, recreation, fishing and shellfish gathering, cultural and aesthetic purposes.*
- (ii) *Open coastal waters, including parts of the Hauraki Gulf: its natural state.*
- (iii) *Groundwater: water supply.*
- (iv) *Lakes, rivers and streams: protection of aquatic ecosystems, recreation, food gathering, water supply, cultural and aesthetic purposes.*
- (v) *Wetlands: protection of aquatic ecosystems.”*

This objective is supported by General Policy 8.4.1-1 which states that “*adverse effects on water quality caused by the discharge of contaminants (including non-point source discharges) shall be avoided, particularly the discharge of potentially toxic, persistent or bio-accumulative contaminants. Where it is not practicable to avoid discharges, they shall be adequately remedied or mitigated.*”

Method 8.4.2-1 goes on to state that “*District plans, regional plans and the Regional Plan: Coastal will contain provisions which give effect to Objective 8.3-1 and Policies 8.4.1-1 and 2.*”

Policies 8.4.4-1 to 3 and the methods set out in 8.4.5 support the objective by ensuring that development or redevelopment only occurs:

- In urban areas where adequate provision is made for control of sediment and stormwater discharges and protection of water quality and riparian margins; and
- In rural areas where the ecological values of aquatic systems are able to be protected, including retention where practicable of riparian vegetation.

More specific policies relating to stormwater and sediment discharges are to be found in 8.4.7.1-3. These policies require that the adverse effects of such discharges arising from new developments or land disturbance activities be either avoided, remedied or mitigated. There is particular emphasis on aquatic receiving environments and on stormwater quality control on a catchment wide basis.

Chapter 11 of ARPS relates to Natural Hazards and at 11.3 contains the objective “*To avoid, remedy or mitigate the adverse effects of natural hazards on human life, property and the environment, while minimising the adverse effects of measures implemented to reduce the risks of natural hazards.*”

This objective is supported by the policies, methods and reasons in 11.4, the first two of which focus on the integration and co-ordination required between ARC and the TLAs for adequate discharge of their responsibilities for hazard management. The remainder mainly focus on the effects of development, including guidelines for construction and carrying out of flood mitigation works.

1.4.2 Proposed Auckland Regional Plan: Coastal (September 1999)

The Proposed Regional Plan Coastal recognises that vegetation clearance in water catchments on land has resulted in large volumes of sediment being washed into the coastal marine area and that coupled with contaminated discharges from land use

activities this has had adverse effects on water quality and sediment in many areas of the region.

The following objectives are set out in 5.3 of that plan:

- 5.3.1 *To protect the dynamic functioning of physical coastal processes.*
- 5.3.2 *To protect the integrity, functioning and resilience of ecosystems within the coastal environment.*
- 5.3.3 *To protect from inappropriate subdivision, use and development and where appropriate, preserve the ecological and physical values and processes of Coastal Protection Areas, in recognition of their intrinsic values, their regional, national and international significance, and their high vulnerability to adverse environmental effects."*

The above objectives are supported by a range of policies the most relevant of which is 5.4.5 which states that *"In assessing the effects, including cumulative effects, of subdivision, use and development on natural features and ecosystems throughout the coastal marine area regard shall be had to:*

- (a) *maintaining or enhancing water quality to safeguard the life supporting capacity of ecosystems*
- (b) *maintaining and protecting natural biodiversity, productivity and biotic patterns;*
- (c) *maintaining the natural substrate composition by:*
- (d) *avoiding the addition of material not found naturally in the area;*
- (e) *maintaining natural processes of erosion, movement and deposition of substrate; and,*
- (f) *avoiding disturbance and deposition which would have significant or irreversible effects on the substrate composition."*

Chapter 20 deals with the discharge of contaminants, including stormwater, into the coastal marine area.

The objective of the chapter at 20.3.1 is *"To maintain water and sediment quality in the coastal marine area and to enhance water and sediment quality in the parts of the coastal marine area where water and sediment quality is degraded."* There are a large number of supporting policies which aim to avoid, remedy or mitigate the adverse effects of the discharge on the coastal environment.

1.5 PROPOSED AUCKLAND REGIONAL PLAN: SEDIMENT CONTROL

The Proposed Regional Sediment Control Plan recognises the contribution bulk earthworks can make to land erosion and to the subsequent siltation of waterways and other aquatic environments. It contains a number of objectives and policies designed to avoid, remedy or mitigate the adverse effects of soil erosion and sediment loss associated with such land use activity.

The objectives are:

“5.1.1 To maintain or enhance the quality of water in water bodies and coastal water;

5.1.2 To sustain the mauri of water in water bodies and coastal waters, ancestral lands, sites, waahi tapu and other taonga;

7.1.1 To reduce the exposure of land to the risk of surface erosion leading to sediment generation; and

7.1.2 To minimise sediment discharge to the receiving environment.”

Policy 5.2.1 states that *“Land disturbance activities which may result in the generation and discharge of elevated levels of sediment will be required to employ methods which avoid, remedy or mitigate adverse effects on the quality of water in water bodies and coastal waters.”*

Policy 5.2.2 sets out a number of situations in which the discharge of sediment shall be considered inappropriate unless the adverse effects can be avoided, remedied or mitigated.

Policies contained in 7.2 concentrate on the minimisation of the extent and duration of vegetation removal and earthworks and also the development of strategies by the ARC to prevent and limit sediment generation.

1.6 TRANSITIONAL REGIONAL PLAN 1991

This plan describes a number of permitted activities and the conditions which must be complied with in order to retain permitted status. Such activities were formally notified as General Authorisations pursuant to Section 22 of the Water and Soil Conservation Act 1967 (repealed). The plan is brief and contains no objectives or policies that assist with the concept of integrated catchment management that has developed since the transitional plan was notified.

MANUKAU CITY COUNCIL OBJECTIVES, POLICIES & STRATEGIES

These are covered under the Manukau Proposed District Plan.

Some of the more important sections in regard to the previous section in relation to Stormwater Catchment Management and Planning in this Proposed District Plan are:

1.4 Functions and Responsibilities under the Resource Management Act

1.5 The Relationship between the District Plan, the Corporate Strategic Plan and the Annual Plan.

Chapter 7 Network Utility Services

Chapter 9 Land Modification, Development and Subdivision.

The relevant parts of these sections of the Plan are considered in order below.

1.7 FUNCTIONS AND RESPONSIBILITIES UNDER THE RESOURCE MANAGEMENT ACT

This section clarifies that Regional Councils have been given the primary responsibility for the management of water and soil and for the regional aspects of natural hazard avoidance but that TLAs (District and City Councils) have primary responsibility for managing the effects of land use activities so their functions and responsibilities overlap to some degree. Each authority must prepare plans which are consistent with the other, will further the purpose and principles of the Act and will enable them to provide integrated management of the effects of the use, development or protection of land and associated natural and physical resources in accordance with Section 31(a) of the RMA 1991.

1.8 THE RELATIONSHIP BETWEEN THE DISTRICT PLAN, THE CORPORATE STRATEGIC PLAN AND THE ANNUAL PLAN

City and District Councils prepare these three different planning documents on different timescales and for different purposes. This section clarifies that the focus of the District Plan under the RMA is primarily the sustainable management of the **city's** natural and physical resources rather than a plan dealing with the **Council's** resources. It guides resource management decision-making and is overseen by the judicial system. The other documents outline the objectives (including purely social and economic ones) of the City's residents for the short, medium and long term and allocate funding.

1.9 CHAPTER 7 NETWORK UTILITY SERVICES

The objectives of this section of the plan are set out in 7.3. The first two relate to the protection of people and the rest of the city's environment from the adverse effects of network utility services and the second relates to the protection of the operational efficiency and safety of the network utility services in the City.

7.4 contains supporting policies relating to the location, design and method of installation of network utility services within the city.

1.10 CHAPTER 9 LAND MODIFICATION, DEVELOPMENT AND SUBDIVISION

The objectives of this section are as follows:

- 9.3.1 *To enable land modification, development and subdivision to proceed in a manner that will maintain or enhance the environmental qualities of the City*
- 9.3.2 *To ensure new subdivisions have a character which is compatible with the environmental quality of the surrounding land and with the amenity values and character of existing development in the area.*
- 9.3.3 *To protect areas or features of heritage value.*
- 9.3.4 *To ensure that land modification, development and subdivision are protected from adverse effects of natural hazards as far as practicable and that they do not increase the potential for natural hazards to adversely affect the environment.*
- 9.3.5 *To ensure the provision of an adequate standard of infrastructure and public utility services at the time land is modified, developed, or subdivided to avoid, remedy or mitigate any adverse effect on the environment, and to ensure that the cost of providing or upgrading services is borne largely by those undertaking land modification, development or subdivision.*

Policy 9.4.1 requires that land modification, development and subdivision should occur in a way that:

- (a) *maintains or enhances amenity values...by minimising the adverse effects of site works and construction, such as by ...runoff; and*
- (b) *enhances natural processes and features including natural drainage patterns and riparian vegetation to avoid, remedy or mitigate adverse effects on water quality, through all phases of the water cycle from waterborne pollutants;*

Policy 9.4.2 is “to avoid or mitigate risk to human life, property or other aspects of the environment from natural hazards, including:

- (c) *coastal hillside erosion and instability*
- (d) *landslips, sedimentation and subsidence*
- (e) *flooding...*

Policy 9.4.3 is *To ensure the provision of co-ordinated, timely, effective and efficient utility services that:*

- (f) *enable the sustainable management of network utility services by co-ordinating their progression to support subdivision and development on an orderly basis to meet the requirements of the proposed activity on the land;*
- (g) *require financial contributions for the purpose of stormwater quality on a catchment basis to mitigate effects on the receiving environment*

Appendix B
Open Watercourses – Harania Creek
Assessment

Appendix C
MCC Flooding Reports

Harania Creek Catchment - MCC Flooding Reports

Event Date	Street Name	Hse No	Catch No.	Description of Problem(s)	Problem Code	Cause	Action	Responsibility - Solution	Problem before?
Storm Event of 24/5/97									
5/24/97	Ashley Ave	25	578	Sanitary sewer surcharge	SS	sw infiltration?	Investigate more	MCC - video ss line, repair as required	No
5/24/97	Fleming St	13-17	578	Access cutoff, road flooded, overflow into No 15 & 17	A,RP, P	cp blockage		MCC - regular maintenance programme to remove rubbish	Yes
5/24/97	Massey Rd	373	691	Access cutoff, road flooded	A,RP	road cp overloaded		Roading - check cp not blocked	No
5/24/97	Norana Ave	9-13	565	Overland flow, ponding (Nos 9 & 13 worst)	O,P	On OFP, r/o from Norana Reserve		MCC - upgrade upstream retic.	Yes?
Flooding Reports : 1998 to 2000									
5/1/99	Beach Rd	3-21	567	Overland flow, ponding	O,P	Overland flow		Owner - seal manholes inside factory MW repaired line - relay needed?	
5/1/99	Blake Rd	42	691	Access cutoff, road flooded	A, RP	Flooded creek	Investigate more	MCC to investigate pipe under Pacific Steel - may be obstructed	No
7/14/98	Blake Rd	73	691	Sanitary sewer surcharge	SS				
8/10/98	Cranmere Cres	66D	578	Under house flooding	U				
7/14/98	Dewhurst Pl	29	580	Ponding	P	No OFP, r/o from glass houses	Investigate more Advise private	Owner - upgrade private drainage Neighbour - to fix drains	No
7/14/98	Favona Rd	150	565	Garage/under house flooding, ponding	G,U,P	Heavy rain	Investigate more	MCC - needs infrastructure	No
7/14/98	Favona Rd	152	565	Access cutoff, ponding	A, P	No OFP		MCC - to install system	
5/1/99	Gadsby Rd	37	580	Sanitary sewer surcharge (ARC line)	SS	SS overloaded			Yes

Event Date	Street Name	Hse No	Catch No.	Description of Problem(s)	Problem Code	Cause	Action	Responsibility - Solution	Problem before?
7/14/98	Gadsby Rd	59	580	Overland flow	O	Development OFP by TSE Group	Investigate more	MCC - Land Development Control	No
8/10/98	Massey Rd	264	578	Ponding	P	sw retic. inadeq.		MCC - upgrade infrastructure	
3/14/00	Norana Ave	5	565	Access cutoff	A	Development		MW - check connection by video	Yes
7/14/98	Robertson Rd	59	580	Ponding	P			Owner - install private drainage	No
7/14/98	Tennessee Ave	96	578	Overland flow	O	blocked drain	Investigate more	MCC - clear blocked drain - done	No
5/1/99	Tennessee Ave	198	578	Stormwater line backflow	W	high creek level		Owner to accept responsibility	No
5/1/99	Wood Ave	3	691	Garage/under house flooding, ponding	G,U,P	Cesspit		Owner to accept responsibility	Yes

Notes:

1. Data from MCC Flood Register and "Mangere Incident Reports - Storm Event 24 May 1997" (Water & Drainage Services, September 1997)
2. Abbreviations: cp = cesspits; inadeq. = inadequate; retic. = reticulation; r/o = runoff; sw = stormwater; MCC = Manukau City Council; MW = Manukau Water; OFP = overland flowpath; SS = sanitary sewer
3. Problem codes: A = access, G = garage flooding, O = overland flow, P = ponding, RP = ponding in road, SS = sanitary sewer surcharge, U = under house flooding, W = watercourse
4. The "problem before" column refers to whether the complainant had experienced the same problem before or not.
5. No 374 Massey Rd (located almost opposite No 373 Massey Rd but on the other side of the catchment boundary) reported ponding problems on 14/3/00 due to a blocked cesspit. The owners were to get the catchpit and its leads checked for rubbish/roots, while Manukau Water may also check for roots. This problem is thought to be different from that reported by No373 in 1997, but it has been described here due to the proximity of the two properties and the similar nature of the problem.

Appendix D

***Comprehensive Stormwater Discharge
Consents Consultation***

COMPREHENSIVE STORMWATER DISCHARGE CONSENTS CONSULTATION

STORMWATER

Council is currently supporting the Integrated Regional Approach to the Comprehensive Catchment Discharge Consent (CCDC) process. Regular meetings are being attended in conjunction with ARC, WSL, Manukau Water and other Territorial Local Authorities (TLAs) with the overall objective of protecting the environment and with the CCDC process forming integral part of the overall process.

From this perspective the current status of stormwater catchments in Manukau City can be described as it follows:

- 170 Stormwater Catchments
- 11 Major Streams
- 113 of them are within urban area
- 37 Existing catchment studies and plans
- 20 Comprehensive Discharge Consents granted by ARC
- 17 Comprehensive Discharge Consent in progress
- 75 urban catchments currently discharging under provisions of water rights to be processed in Comprehensive Catchment Discharge Consent (CCDC) process

The 75 urban stormwater catchments have been grouped into 14 receiving environment areas as shown:

Item	Catchment Group Name	Number of Catchments	Catchments ID
1.	Cascades Bridge Catchments	3	540, 675, 667
2.	Tararata Creek Catchments	2	572, 577
3.	Buckland's Beach Catchments	4	657, 670, 679, 684
4.	Waimahia Creek Catchments	6	607, 615, 616, 617, 606, 592*, 558*
5.	1.10.1 Pukaki Creek Catchments	2	699*, 699**
6.	Otara Creek Catchments	9	637, 638, 631, 641, 636, 643, 630, 639, 640
7.	1.10.2 Carnoustie /Glenross 1.10.3 Drive Catchments	3	558*, 592*, 600
8.	Harania Creek Catchments	7	580, 565, 567, 578, 702, 700, 691
9.	Pakuranga Creek Catchments	11	661, 686, 685, 669, 668, 662, 655, 680, 653, 647,

			646
10	Mangere Bridge Catchments	4	570, 571, 581, 582
11	Waokauri creek catchments	2	699*, 699**
12	Tamaki River/Pakuranga	15	650, 652, 654, 659, 660, 664, 678 666, 665, 683, 681, 672, 674, 677, 657, ,
13	Tamaki River/Papatoetoe	6	690, 692, 696, 697, 698, 703
14.	Puhinui Creek Estuary	1	605
15	Howick Minor	1	541
	1.10.4 Total	75	75

The CCDC programme until the end of March 2001 will be to commission an inventory of all relevant and currently available catchment data for 75 urban catchments and to commission the investigations required in these catchments to support the applications.

Once the catchment data is collated and the applications are lodged by 1 April 2001. Parallel to this process the 10-year CCDC programme would be developed. This programme would incorporate also those catchments that have the current CCDC.

Over the last 10 years comprehensive catchment management plans have been used largely to gain an overall catchment-wide understanding and knowledge base to better address individual nuisance and flooding problems within the catchment. They have also been helpful in identifying and prioritising stormwater capital works across the City.

At present the focus of catchment management studies and plans is on integrated planning approach with emphasis on water quality, pollution and flood control. The integral catchment management process comprises of identifying the causes and effects with respect to the status of the receiving environment and setting environmental goals that are within a context of optimum public spending and supported by the stakeholders.