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CRIME & DISORDER REVIEW PANEL - 18 SEPTEMBER

ECONOMY & PLANNING REVIEW PANEL - 19 SEPTEMBER

CORPORATE & FINANCE REVIEW PANEL - 20 SEPTEMBER

ENVIRONMENT REVIEW PANEL - 21 SEPTEMBER

CABINET - 3 OCTOBER

REPORT ON FLOODING & THE COUNCIL'S LAND DRAINAGE STRATEGY – AUTUMN 2000 & WINTER 2000/01

1. INTRODUCTION

- 1.1 This is the final report on the Autumn and Winter flooding. It follows on from the Interim Report on Flooding presented to Policy and Resources Committee on 17 January 2001. Minute 124 refers.
- 1.2 The report covers:
 - An overview of the flooding across the country;
 - Details of flooding within the New Forest District Council (NFDC) area over the Autumn and Winter period;
 - The financial implications of the flooding; and
 - Presents, and seeks approval to, the Council's revised Land Drainage Strategy document.
- 1.3 The investigation and analysis of the flooding problems and the Council's response provides an ideal opportunity to review and revise the Land Drainage Strategy taking account of the problems that arose and the lessons learnt.
- 1.4 The general lack of maintenance of watercourses is a widespread problem across the county. The revised Strategy suggests a method of addressing the problem in the District Council area, without significantly increasing Council expenditure on land drainage and flood defence. It focuses on raising the awareness of land drainage responsibilities with the general public and riparian owners through publicity and partnership working with Town and Parish Councils, the Agency, County Council and other organisations.
- # 1.5 The strategy document, attached as Appendix A, now includes details of the land drainage responsibilities of landowners and the relevant public and private bodies. It has also been updated to include details and actions relating to changes in legislation and the introduction of new Government initiatives and guidance. Proposed amendments to the Council's land drainage policy are also included. The land drainage policy is different to the Policy Statement on Flood and Coastal Defence, which relates solely to the Government's High Level Targets.

2. OVERVIEW OF THE FLOODING ACROSS THE COUNTRY

- 2.1 Autumn 2000 was the wettest in England and Wales since records began in 1766. The flood levels in places were the highest ever recorded and in many places there had been no previous record of flooding. Some properties were flooded on a number of occasions. 10,000 properties were flooded at over 700 locations and there was widespread disruption to road and rail services. The wet weather, very high ground water levels and saturated soils continued through the Winter, resulting in even more properties being flooded.
- 2.2 In December 2000 the Environment Agency (Agency) warned that up to 7,000 properties across Southern England were at high risk of flooding through the coming months. Many towns and villages were affected by or at risk of flooding, some by ground water, which remained at unprecedented levels throughout the Winter. Some properties in Hampshire remained flooded with ground water for months.
- 2.3 In Hampshire and Dorset April 2001 was the eighth month in succession with above average rainfall. Winter rain between October and March was 85% above the long term mean and the highest on record. In Hampshire an average of 841mm of rain was recorded over this period, far exceeding the previous wettest Winter of 1935/36 when 713mm of rain was recorded. Some of the highest rainfall totals of up to 1100mm were recorded in south east Hampshire and at the top of the New Forest.
- 2.4 Following the Autumn floods the Agency published a national report titled "Lessons Learned – Autumn 2000 Floods", which contained a number of recommendations and action points. The Southern Region of the Agency also published a regional report titled "Autumn 2000 Floods Review". At the time of writing reports on the Winter floods have not been published.
- 2.5 Hampshire County Council's (HCC) Emergency Planning Unit has set up a Flood Response Group as recommended in the Flood Defence Emergency Response (FDER) Project. The FDER Project was initiated by the Agency and membership comprised representatives from professional and representative bodies, including the Local Government Association. The group has prepared a Hampshire Flood Plan and will meet twice a year to discuss the county-wide response to flooding emergencies. The County Surveyor also set up a Flooding Steering Group, which is lead by the Agency and facilitated by HCC to try and ensure that there is a co-ordinated response to the investigation and alleviation of flooding problems in Hampshire.

3. FLOODING IN THE NFDC AREA OVER THE AUTUMN AND WINTER PERIOD

- 3.1 Details of the main flooding incidents within the NFDC area, up to the middle of December 2000, were included in Paragraph 2 of the interim report. It was also reported verbally to the Advisory Cabinet on 3 January 2001 that further serious flooding occurred over New Year's eve/day, when 14 properties were flooded internally at Ripley and Sopley.

- 3.2 Over the six month period October 2000 to March 2001 inclusive the Council:
- Received 100 flood watches and 28 flood warnings from the Agency.
 - Received 6 severe weather watches/warnings from the Meteorological Office via HCC.
 - Received nearly 900 incident reports from residents concerned about flooding.
 - Delivered more than 25,000 sandbags to help protect property from flooding.
 - Spent approximately £126,151 on the emergency response to the flooding, which includes all staff time, the provision of sandbags, clearing obstructions in watercourses and welfare support, but excludes highway expenditure.
- 3.3 NFDC worked in partnership with HCC's Area Surveyor in responding to the flooding emergency. The Area Surveyor's staff delivered sandbags to flooding incidents within the Waterside areas, NFDC covered the rest of the area and the two authorities worked closely together in responding to the more serious flooding incidents across the district. The Area Surveyor's costs in responding to the flooding emergency in the NFDC area were also significant.
- 3.4 Most areas of the New Forest were affected by flooding at some time during the Autumn and Winter, some areas on a number of occasions. The most seriously affected were:
- Ashurst
 - Bartley
 - Breamore
 - Brockenhurst
 - Fordingbridge
 - Portmore
 - Redbrook Bridge
 - Ringwood
 - Ripley
 - Rockbourne
 - Sopley
- 3.5 The following organisations are investigating the flooding within the NFDC area:
- Agency Main rivers
 - HCC Highways
 - NFDC Ordinary watercourses
 - Wessex and Southern Water Companies Public sewerage systems
- 3.6 NFDC has sent out 701 questionnaires to the owners of affected properties, of which approximately 310 have so far been returned.
- 3.7 £25,000 has been included in the revenue expenditure plans for 2001/02 for investigating the non-main river flooding incidents. An engineer is currently investigating the flooding incidents, priority being given to where property has been flooded internally. On completion of the investigations a priority list of works to be carried out from 2002/03 onwards will be drawn up. Where appropriate schemes will be included in the capital works programme and approval sought from the Ministry of the Environment, Food and Rural Affairs. Should it be considered necessary a request will be made for additional revenue funds from 2002/03 onwards to cover expenditure on minor land drainage improvement and flood defence works.

- 3.8 The revenue works budget for this financial year is being used to fund the more urgent and ongoing improvement works in the worst hit areas. HCC's Area Surveyor has put together a programme of flood alleviation works where the highways have been seriously affected by flooding and problems have been long standing. Where watercourses are involved and properties have been flooded internally NFDC engineers are working in partnership with the Area Surveyor's engineers, offering technical advice and part funding improvement works where appropriate.
- 3.9 NFDC engineers are also working closely with the Agency's staff and consultants who are investigating flooding from the river Avon and tributary main rivers at Fordingbridge and Ringwood.

4. NFDC LAND DRAINAGE STRATEGY DOCUMENT

- 4.1 Attached as Appendix A is the Council's Land Drainage and Flood Defence Strategy document, which has been comprehensively revised to incorporate the changes that have occurred since the last revision. It also takes into account some of the lessons learned during the most recent severe flooding events.
- 4.2 The document covers all areas of Council activity in land drainage and flood defence and the responsibilities of the various authorities involved in land drainage and the disposal of surface water run-off are explained on pages 9 and 10 of the document.
- 4.3 The Council's land drainage policy, with the proposed amendments highlighted, is included on page 11 of the document, and is repeated below:
- (i) The Council will exercise its statutory powers to **help** alleviate or control flooding from **ordinary** watercourses of both public and private property, priority being given to **where dwellings have been, or are at risk of being, flooded internally.** **Priority will be given to** requiring riparian owners to undertake any necessary maintenance works and the Council will carry out any necessary minor watercourse improvement, or flood defence works or organise works funded by others.
 - (ii) Where the necessary works are inappropriate in scale and/or cost for riparian owners' action, **and receive DEFRA approval having met their benefit/cost criteria,** the Council will undertake such works directly in accordance with established programmes of work recognising resource limitations. Where appropriate, the Council will seek to recover costs on a proportional basis from riparian owners.
 - (iii) Where appropriate and economically viable, the Council will carry out such works to a standard as will enable the enmainment of watercourses by the Environment Agency, thereby eliminating the Council's subsequent involvement in maintenance.
 - (iv) The Council will not take direct remedial action in respect of non-watercourse land drainage problems.
 - (v) **The Council supports the Government's aims and objectives for flood and coastal defence and has set out its plans for delivering these in a Policy Statement required under the DEFRA High Level Targets.**

4.4 A summary of the strategy proposals is given on pages 26 and 27 of the document.

5. FINANCIAL IMPLICATIONS

5.1 2000/01 Revenue Budget

Revenue expenditure on land drainage for 2000/01 was within budget, there being a slight underspend on time spent on emergency planning. This arose because of the time spent responding to and coping with the emergencies.

5.2 2000/01 Expenditure on Emergency Response

Total expenditure by NFDC in responding to the flooding emergency over the Autumn and Winter was £126,151. Under the "Bellwin Scheme" £114,430 of this is eligible expenditure. After deducting the threshold of £34,000 the Council will be reimbursed £80,430 by the Government. The Council therefore has to fund the shortfall of £45,721 (funded in part from 5.1 above).

5.3 As highway agent to HCC the Council also spent £17,651 on the emergency response to highway incidents during the gales and flooding over the Autumn and Winter period. This was not covered by the "Bellwin Scheme" but has been reimbursed by HCC under the agency arrangements.

5.4 For the year 2000/01 the Council has therefore had to make budgetary provision for expenditure of £45,721 on the flooding emergency.

5.5 2001/02 Revenue Budget

An additional budget of £25,000 was approved for the investigation of the non-main river flooding that occurred over the Autumn and Winter.

6. ENVIRONMENTAL IMPLICATIONS

6.1 The environment of people in towns, villages and individual properties across NFDC's area has been impacted upon by flooding from rivers, streams, groundwater, drains and overwhelmed sewerage systems. Communities and families have seen their homes and personal possessions inundated and in some cases destroyed by flood water. Businesses in the district have been disrupted, as have the transport systems. The exercising of available land drainage powers by operating authorities, such as district councils, and carrying out land drainage and flood defence works helps to reduce the impact of flooding on people and the environment.

7. CRIME AND DISORDER IMPLICATIONS

7.1 There are no crime and disorder implications.

8. RECOMMENDATION:

Economy & Planning Review Panel Corporate & Finance Review Panel

That the Cabinet be advised that the Panels support the recommendation below;

That the Land Drainage Strategy Document and Land Drainage Policy be approved.

Further Information:

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Background Papers:

None

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LAND DRAINAGE & FLOOD DEFENCE STRATEGY

CONSULTANCY SERVICES DIVISION

First Issued May 1990
First Revised September 1993
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LAND DRAINAGE STRATEGY

CONTENTS	PAGE
1. INTRODUCTION	8
2. THE LEGAL FRAMEWORK	8 - 9
3. RESPONSIBILITIES	9 - 10
4. MAFF HIGH LEVEL TARGETS	10 - 11
5. NFDC POLICY ON LAND DRAINAGE AND FLOOD DEFENCE	11
6. AREAS OF OPERATION	11 - 17
• MAFF High Level Targets - Flood Defences	
• Incident Response/Enforcement	
• Works - Maintenance and New Works	
• Development Control/Planning	
• Emergency Response	
7. EXISTING AND POTENTIAL INFLUENCES	17 - 20
• Hampshire Land Drainage Working Group	
• Best Value	
• Maintenance Liabilities	
• Environmental Impact	
• Climate Change	
• Change in Legislation	
8. STAFF RESOURCES	20
9. FINANCIAL IMPLICATIONS	20 - 21
• Revenue Support Grant	
• MAFF Grant Aid	
10. NFDC LAND DRAINAGE STRATEGY	21 - 26
• Maintenance of Watercourses	
• Emergency Response	
• Catchment Plans	
• Sustainable Urban Drainage Systems	
• Development in Flood Plains	
• Land Drainage Byelaws	
• Best Value	
11. SUMMARY OF PROPOSALS	26 - 27
APPENDICES	
• Appendix 1 - Abbreviations and Definitions	28 - 30
• Appendix 2 - Principal Legislation	31 - 32
• Appendix 3 - MAFF High Level Targets	33 - 51
• Appendix 4 - Target 3 - Policy Statement	52 - 61
• Appendix 5 - Practice Note LD6 & Information Sheet LD6	62 - 68
• Appendix 6 - Practice Note LD5 & Information Sheet LD5	69 - 74
• Appendix 7 - Practice Note LD4 & Information Sheet LD4	75 - 84
• Appendix 8 - Catchment Management Study Progress Report	85
• Appendix 9 - Environment Agency/LGA Flood Defence Protocol	86 - 96

LAND DRAINAGE STRATEGY

1. INTRODUCTION

- 1.1 The Council's land drainage function was reviewed, and the first land Drainage Strategy document prepared, in 1990. The document was adopted as Council policy by the Environmental Services Committee under Minute 40 of the meeting held on 6 September 1990.
- 1.2 The Land Drainage Strategy document was revised in 1993, principally to incorporate legislation enacted since the document was first issued. The Environmental Services Performance Measurement Sub-Committee approved the revised document under Minute 10 of the meeting held on 30 September 1993.

- 1.3 There have been a number of changes affecting the land drainage function since the revised Strategy document was adopted. The main ones are:

- Environmental obligations of land drainage bodies, as set out in the Land Drainage Act (LDA) 1991, were significantly amended by the LDA 1994.
- From 1st April 1996 the Environment Agency (Agency) assumed the land drainage functions previously exercised by the National Rivers Authority (NRA).
- The Department for Environment, Food and Rural Affairs (DEFRA) formerly the Ministry of Agriculture, Fisheries and Food (MAFF) High Level Targets came into operation on 1st April 2000.

There were also lessons learned during the severe and extensive flooding events that occurred across parts of England and Wales during Easter 1998 and the Autumn/Winter of 2000/2001.

- 1.4 This Land Drainage Strategy document has now been comprehensively revised to incorporate the changes that have occurred since the last revision. It also takes into account some of the lessons learned during recent severe flooding events.

2. THE LEGAL FRAMEWORK

- 2.1 Land drainage deals with natural flow. It therefore excludes both the drainage of water from man-made surfaces by means of pipes and culverts (i.e. surface water sewerage) and the protection of the coastline from erosion (i.e. where, unlike flooding, the coast is backed by high land). Land drainage and flood defence does also include the alleviation or control of flooding by salt water in the low lying coastal areas.
- 2.2 Common law precedents and statutory provisions have established the general principles which govern the present arrangements for land drainage and flood defence.

- 2.3 Individual owners are responsible for the drainage of their own land, and for accepting and dealing with the natural catchment flows from adjoining land. The primary responsibility for maintaining the proper flow of water within a watercourse therefore rests with the landowner through whose land the watercourse flows (the riparian owner). They must not permit an artificial obstruction to the natural flow without consent.
- 2.4 Powers given to public authorities are, in general, permissive, thereby recognising the rights and obligations of riparian owners and other individuals, and giving such authorities a degree of discretion over public expenditure priorities. However, the Government does expect the powers to be exercised when necessary. If it was made a duty to exercise the relevant powers, public authorities could be open to claims for compensation should flooding and property damage occur as a result of private individuals not maintaining their watercourses or flood defences and the public bodies have not taken any action.
- 2.5 The LDA 1991 re-enacts most of the previous land drainage provisions, but those relating to the Agency and main rivers appear in the Water Resources Act (WRA) 1991. The LDA 1994 adds new environmental duties to the LDA 1991.
- 2.6 The principal legislation governing the land drainage function of district councils is contained within the LDA 1991. However, some of the powers given to district councils in the Public Health Act (PHA) 1936, and Part III of the Environmental Protection Act 1990 concerning statutory nuisance, have relevance to land drainage matters.

The detailed provisions are given in Appendix 2.

3. RESPONSIBILITIES

- 3.1 **DEFRA** - The Department for Environment, Food and Rural Affairs (formerly MAFF) is the Government department with overall policy responsibility for flood defence and coast protection in England. It promotes and administers the statutory framework for flood defence and coast protection.
- 3.2 **Environment Agency (Agency)** - Under the Environment Act (EA) 1995 the Agency has a duty to exercise a general supervision over all matters relating to flood defence in England and Wales. It also has permissive powers under the WRA 1991 in respect of "main rivers", which deal with maintenance, improvement works and construction. The Agency is also a formal consultee on certain planning and development control matters relating to land drainage and flood defence.
- 3.3 **County Councils** - A county council has two distinct interests in land drainage matters, i.e. as a drainage body and as a highway authority.

Drainage body - The LDA 1991 confers powers on county councils which in some respects are similar to some of the powers given to district councils. The powers enable a county council to act in default of a district council, but this does not often occur.

Highway authority - As a highway authority for all roads within its area, except trunk roads, there is a responsibility on a county council, or its agent, to keep the roads free from flooding and to make provision for run-off from highways in a proper manner. The highway authority is responsible for maintaining road drains which are vested in it. In general it is not responsible for roadside ditches, the maintenance of which are the responsibility of the adjacent land owners.

- 3.4 **District Councils** - A district council has permissive powers under the LDA 1991 which generally relate to flood prevention, maintaining flows and the making of byelaws in respect of "ordinary watercourses" ie non "main river" only. This may involve serving enforcement notices on the riparian owners of obstructed watercourses, maintaining and improving existing watercourses or constructing new works. Where the condition of an ordinary watercourse causes a statutory nuisance, a district council can also use powers under the PHA 1936 to take action against the riparian owner of the offending watercourse. The Local Government Act (LGA) 1972 enables a Council to incur expenditure to avert, alleviate or eradicate the effects or potential effects of any emergency or disaster.
- 3.5 **Riparian Owners** - The owner of land on the banks or under the bed of a natural watercourse has 'riparian rights', based on common law. He has the right to have water come to him in its natural state, in flow, quantity and quality, and to go from him without obstruction. Although a riparian owner is responsible for a watercourse on his land, he is under no common law duty to clear a watercourse which becomes silted or obstructed through natural causes. Under statute law, however, drainage authorities may require and enforce riparian owners to carry out such works. The riparian owner must obtain the consent of the drainage authority before the construction of, or alteration to, any mill dam, weir, or similar obstruction or culvert in an ordinary watercourse.
- 3.6 **Water Companies** - A water company is responsible for maintaining public foul and surface water sewers vested in them. These will generally be shown on the public sewer records.

4. **DEFRA HIGH LEVEL TARGETS**

- 4.1 In November 1999 MAFF (now DEFRA) published the Government's High Level Targets for Flood and Coastal Defence and the Elaboration of the Environment Agency's Flood Defence Supervisory Duty.
- 4.2 The High Level Targets came into operation on 1 April 2000. Their purpose is to ensure a more certain delivery of the Government's aims and objectives for flood and coastal defence by the individual operating authorities.
- # 4.3 The High Level Targets and the Elaboration of the Environment Agency's Flood Defence Supervisory Role are included as Appendix 3.

- # 4.4 The first target requires each operating authority to publish a policy statement setting out their plans for delivering the Government's policy aims and objectives in their area. While flood and coastal defence legislation is generally permissive, the Government expects all operating authorities to exercise their powers, and to respond to flood and coastal defence risk in a responsible way. All operating authorities are therefore expected to produce policy statements. This Council's policy statement is included as Appendix 4, and was approved under Minute 232 of Policy and Resources Committee on 16 May 2001.

5. NEW FOREST DISTRICT COUNCIL'S POLICY ON LAND DRAINAGE AND FLOOD DEFENCE

5.1 The Council's policy, approved at the same time as this document, is:

- (i) The Council will exercise its statutory powers to **help** alleviate or control flooding from **ordinary** watercourses of both public and private property, priority being given to **where dwellings have been, or are at risk of being, flooded internally. Priority will be given to** requiring riparian owners to undertake any necessary maintenance works and the Council will carry out any necessary minor watercourse improvement, or flood defence works or organise works funded by others.
- (ii) Where the necessary works are inappropriate in scale and/or cost for riparian owners' action, **and receive DEFRA approval having met their benefit/cost criteria**, the Council will undertake such works directly in accordance with established programmes of work recognising resource limitations. Where appropriate, the Council will seek to recover costs on a proportional basis from riparian owners.
- (iii) Where appropriate and economically viable, the Council will carry out such works to a standard as will enable the enmainment of watercourses by the Environment Agency, thereby eliminating the Council's subsequent involvement in maintenance.
- (iv) The Council will not take direct remedial action in respect of non-watercourse land drainage problems.
- (v) **The Council supports the Government's aims and objectives for flood and coastal defence and has set out its plans for delivering these in a Policy Statement required under the DEFRA High Level Targets.**

6. AREAS OF OPERATION

6.1 There are five main areas of operation:

- DEFRA High Level Targets – Flood Defences
- Policing/Enforcement
- Works – Maintenance and New Works
- Development Control/Planning
- Emergency Response

DEFRA High Level Targets – Flood Defences

- 6.2 There are two specific areas of work the Council has to carry out under the High Level Targets that relate to flood defences and critical ordinary watercourses. These are covered in:
- Target 4 – National Flood and Coastal Defence Database
 - Target 5 – Flood defence inspections and assessment of flood risk
- 6.3 Under Target 4 the Agency is tasked with developing and maintaining a National Flood and Coast Defence Database. The district council, as an operating authority, is required to provide the Agency with information in respect of its area of work for inclusion in the database. The Council is required to identify and inspect flood defences on ordinary watercourses, and critical ordinary watercourses, in its own and private ownership. Guidance is provided in an Agency document, “National Sea & Defence Surveys – Condition Assessment Manual” and the inspection details have to be provided in an agreed format for inclusion in the database. This Council completed this work during 2000.
- 6.4 Under Target 5 district councils have to put a programme in place for the regular inspection of:
- all of the flood defence assets they have identified and included in the database; and
 - all critical ordinary watercourses they have identified and included in the database.

The frequency of inspections should be risk based, and at the time of preparation of this Strategy document, guidance on how this should be carried out is still awaited from DEFRA.

Incident Response/Enforcement

- 6.5 This role generally involves responding to reports of actual or potential flooding from ordinary watercourses. It will usually involve an initial site inspection to investigate the problem, an assessment of how it may be resolved, and discussions with riparian owners.
- # 6.6 The full procedure and follow up actions are described in Practice Note LD6 and guidance for riparian owners is given in Information Sheet LD6. These are included as Appendix 5.
- 6.7 Details of all reported flooding incidents and land drainage problems that are reported to the Council are recorded in the land drainage database and Geographic Information System (GIS). These records go back to 1986.
- # 6.8 This role also involves the vetting and approval of proposals to culvert watercourses, and possible enforcement action if culverting is done without approval and is causing an obstruction to flow. This work is done in partnership with the Agency, the procedure being covered in Practice Note LD5 and guidance for riparian owners is given in Information Sheet LD5. These are included as Appendix 6.

Works – Maintenance and New Works

- 6.9 The Council may maintain or improve watercourses or construct new works, but only so far as may be necessary to prevent flooding or remedying or mitigating any damage caused by flooding. Access onto land, other than for maintenance of a watercourse, has to be by agreement; there is no right of entry for undertaking improvements or new works.
- 6.10 District councils only have powers to require riparian owners to remove obstructions to flow from a watercourse. They cannot require riparian owners to improve a watercourse or construct flood defences on it. This is an important consideration when works are required as in most cases the owner of a flooded property is not the riparian owner of the obstructed or under-capacity watercourse and therefore is not in a position to take direct corrective action. The riparian owner of an obstructed or under-capacity watercourse is often unlikely to derive any direct flood defence benefit from maintaining or improving their watercourse.
- 6.11 Where improvements or new works have been undertaken on land that is not in Council ownership there is generally an obligation to assume some on-going maintenance responsibility. The Council will endeavour to ensure that an existing riparian owner's responsibilities remain, undertaking only to 'assist' in 'major' maintenance which could be regarded as a direct result of the improvement. Many such instances are historic and there is no full record of all the locations where this might apply. Where records do exist of flood defences and improvement works for which the Council has an ongoing maintenance liability, details are included on a database which is to be linked to the NFDC GIS.
- 6.12 In the past, various authorities have been involved in watercourse maintenance, although in land drainage terms the actual responsibility has remained with the riparian owner. This is particularly true of roadside ditches which were once maintained by the highway authority. Pressures on finances and resources have resulted in this work being stopped, except in exceptional circumstances.
- 6.13 Maintenance of existing watercourses within Council-owned land is a responsibility of the Council through the relevant Portfolio Holder and Review Panel. It does not fall within the land drainage function, although technical expertise can be made available, if required, to staff responsible for management of the land.
- 6.14 The LDA 1994 places environmental duties on local authorities while exercising their statutory powers in respect of land drainage and flood defence. When considering and carrying out land drainage or flood defence works local authorities must take into account both the conservation and enhancement of the natural environment. An environmental assessment will be necessary for certain works, particularly where planning approval or DEFRA approval is required.

Development Control/Planning

6.15 The Government's policy is to reduce the risks to people and the developed and natural environment from flooding. It therefore looks to the local planning authorities to ensure that flood risk is properly taken into account in the planning of developments to reduce the risk of flooding and the damage which floods cause. The Department for Transport, Local Government and the Regions (DTLGR) has issued new guidance for England on development and flood risk. The new document is entitled Planning Policy Guidance Note 25: Development and Flood Risk (PPG25), which replaces Department of the Environment Circular 30/92 (MAFF Circular FD1/92).

6.16 PPG25 states that:

- the susceptibility of land to flooding is a material planning consideration;
- the Environment Agency has the lead role in providing advice on flood issues, at a strategic level and in relation to planning applications;
- policies in development plans should outline the consideration which will be given to flood issues, recognising the uncertainties that are inherent in the prediction of flooding and that flood risk is expected to increase as a result of climate change;
- planning authorities should apply the precautionary principle to the issue of flood risk, using a risk-based search sequence to avoid such risk where possible and managing it elsewhere;
- planning authorities should recognise the importance of functional floodplains, where water flows or is held at times of flood, and avoid inappropriate development on undeveloped and undefended floodplains;
- developers should fund flood defences and warning measures required because of the development; and
- planning policies and decisions should recognise that the consideration of flood risk and its management needs to be applied on a whole-catchment basis and not be restricted to floodplains.

6.17 PPG25 emphasises that the primary responsibility for safeguarding land and other property against natural hazards such as flooding remains with the owner and that those proposing particular developments are responsible for:

- providing an assessment of whether any proposed development is likely to be affected by flooding and whether it will increase flood risk elsewhere and of the measures proposed to deal with these effects and risks; and
- satisfying the local planning authority that any flood risk to the development or additional risk arising from the proposal will be successfully managed with the minimum environmental effect, to ensure the safe development and secure future occupancy of the site.

It is then for the local planning authority, advised as necessary by the Agency, to determine an application for planning permission taking account of all material considerations, including the issue of flood risk and how it might be managed or mitigated.

6.18 Although the Agency is the formal consultee on certain land drainage and flood defence matters, the Consultancy Services Division of the Environment Services Directorate is consulted on all planning applications. Development proposals are checked by the land drainage engineer in Consultancy Services to establish if an ordinary watercourse is affected by the proposals and assess the impact they may have on the watercourse and any known flooding problems.

6.19 If the development does have an impact on an ordinary watercourse or flooding, the land drainage engineer may take one, or a combination, of the following actions:

- Advise the Council's Development Control Division of the action required by the developer to comply with land drainage regulations and also make contact directly with the developer or their agent;
- Advise the Council's Development Control Division that the Agency must be consulted where the proposals will have a significant impact or are considered to be an area liable to flooding;
- Provide advice and information to the Agency in support of their formal consultation response;
- Bring to the attention of the Council's Development Control Division land drainage or flooding issues which can only be addressed through the planning process, and which they need to pursue with the developer.

The procedures are covered in Practice Note LD4 and Information Sheet LD4 shown in Appendix 7.

6.20 It is important to note that the Council's land drainage engineer is not acting in the capacity of a formal consultee and that there are no powers within the planning process by which refusal can be directed on land drainage grounds. The Council's Development Control Division must form its own opinion, and make the appropriate decisions, having received advice from consultees.

6.21 As required under S105 of the WRA 1991 the Agency has provided the Council's Development Control Division with indicative floodplain maps for use in both development control and emergency planning. The information is provided in digital format and is included on the NFDC GIS and on the Council's adopted New Forest District Local Plan proposals maps. The maps can also be accessed through the Agency's web site. Floodplains are shown for 1:100 flooding events on main rivers, and some of the more important ordinary watercourses, and for 1:200 flooding events on the coast. The Agency will continue the programme of providing details of flooding 'hot spots', although updated maps are still awaited.

- 6.22 Development throughout river catchments can have a significant impact on flooding simply by increasing run-off. The restriction and reduction of surface water run-off from new development can be encouraged by the provision of surface water storage areas, flow limiting devices in conjunction with surface or sub-surface storage or, where ground conditions permit, the use of infiltration areas or soakaways. These are collectively known as sustainable urban drainage systems (SUDS), which are techniques to control surface water run-off as close to its origin as possible, before it enters a watercourse. CIRIA publications CIRIA C522 “Sustainable Urban Drainage Systems – Design Manual” and C523 “Sustainable Urban Drainage Systems – Best Practice Guide” are the main reference documents. NFDC planning policies encourage the use of SUDS for all new development and policies on SUDS are just being introduced into the Local Plan through the current First Alteration process.
- 6.23 Where the Council is proposing to carry out flood defence and alleviation works, and new development is proposed in the land drainage catchment, developers may be required to provide contributions towards the works.

Emergency Response

- 6.24 During periods of extreme weather conditions, the NFDC area has been affected by serious tidal, river and flash flooding events. The most recent of the severe floods occurred in 1989, 1990, 1993, 1995, 1999 and 2000/2001. Because of the large geographical area and the varying geology throughout the district, flooding has tended to affect specific areas at different times. However, there have been occasions when tidal, river and flash flooding have occurred at the same time or there has been a serious risk of such an occurrence.
- 6.25 In responding to these flooding emergencies the Council has provided assistance to owners of property that has been flooded or has been at risk of flooding. The Council has provided sandbags to help protect property from flooding, organised road closures, provided welfare support to affected property owners and co-ordinated the emergency response of the other agencies.
- 6.26 Following widespread flooding in 1995, Consultancy Services produced an Operational Flood Plan, which was completed in July 1998. It is an action plan between the Agency’s Local Flood Warning Plan and the Council’s own Emergency Plan. Details are provided of the:
- actions of the authorities involved;
 - contacts and communications;
 - areas at risk of flooding and areas flooded;
 - sandbag arrangements;
 - actions for flood risk areas;
 - liaison arrangements; and
 - follow up actions.

- 6.27 As recommended in the Agency initiated Flood Defence Emergency Response (FDER) Project Report, HCC's Emergency Planning Unit initiated the setting up of the Hampshire Flood Response Group. The Group, made up of representatives from all of the agencies involved in flooding emergencies, produced the "Hampshire Flood Plan". The plan states the actions of the Group members and lays down a framework for the co-ordination of flood response work throughout Hampshire. An important element of the plan is that district councils are to take the lead in co-ordinating the emergency response to flooding for their area.
- 6.28 Target 3 of the DEFRA High Level Targets requires the Agency to arrange, in conjunction with local authorities, emergency services and other partners, a programme of flood emergency exercises at national, regional and local levels. The Agency has to report details to DEFRA and inform them of those areas where the Agency and local authorities have, and have not, reviewed and agreed emergency plans.
- 6.29 It is important to recognise that such emergencies have a significant effect on the normal, planned workload of staff who become involved. If the emergency occurs in February there is very little time left to retrieve the time lost on other, programmed, work.

7. EXISTING AND POTENTIAL INFLUENCES

Hampshire Land Drainage Working Group

- 7.1 As part of a training/networking initiative the Hampshire District Engineers' Group set up a Land Drainage Working Group (LDWG) on 15 February 1995. The Group is made up of representatives from the Hampshire district councils, HCC, the Agency and Southern Water Services.
- 7.2 The purpose of the Group is to:
- share knowledge on the practical skills and methods of good practice used by engineers in carrying out the land drainage function; and
 - use this shared knowledge and experience to jointly clarify land drainage issues and help resolve mutual problems.
- 7.3 Since it was set up the Group has completed a number of initiatives and been an effective means of ensuring everyone in the Group has been made aware of new areas of activity in land drainage and flood defence. It has produced model documents for the Practice Notes and Information Sheets referred to in this document and a Model Operational Flood Plan on which the NFDC Plan is based. With the recent Government interest in land drainage and flood defence, and the number of new initiatives resulting from the unprecedented floods in the last three years, the need for such a Group has never been greater. It is essential that it continues its role and that it is supported by the appropriate agencies, particularly in view of the requirements of Best Value.

Best Value

- 7.4 The Government has placed a duty of best value on local authorities to deliver services to clear standards – of cost and quality – by the most economic, efficient and effective means available. It provides a challenging performance framework that requires local authorities to publish annual best value performance plans and review all of their services every five years. In the best value reviews local authorities must show how they are continuously improving their services.
- 7.5 Land drainage and flood defence will be included as part of the civil engineering package to be reviewed during 2002/2003. A considerable amount of preparation work has already been carried out within Consultancy Services and by the LDWG, particularly in the area of benchmarking and performance indicators.
- 7.6 The best value review procedure is very rigorous and searching, including thorough benchmarking and consultation processes. The review will identify areas for change and improvement. This in turn will possibly result in changes to the Council's policy on land drainage and this Strategy document.

Environmental Impact

- 7.7 There are two important features of environmental protection legislation affecting land drainage; the environmental duties and responsibilities of authorities concerned with drainage; and the requirement for environmental assessment of land drainage works and of development that is likely to affect drainage.
- 7.8 Land drainage and flood defence proposals can have significant adverse effects on nature and landscape conservation, water supply, recreation patterns and features of cultural and amenity value. In extreme instances, these may make the project unacceptable, despite all efforts at mitigation. In most cases, however, adverse effects can be minimised if the project is designed and implemented sensitively. Consideration must be given to the use of sustainable urban drainage systems and bank protection solutions that create habitat, and use living vegetation to strengthen the bank and reduce the risk of erosion. Whenever possible opportunities should be taken to incorporate environmental improvements to help the conservation of wildlife and landscape.
- 7.9 Where land drainage and flood defence works require DEFRA approval and/or planning permission, an environmental impact assessment will be required. The implications of carrying out an environmental impact assessment are a very important consideration when planning land drainage and flood defence projects.

Climate Change

- 7.10 There is mounting evidence that the global climate is changing as a result of human activity. Sea levels will rise globally as a result of thermal expansion of the oceans, melt-water from alpine ice and snow from the polar ice caps. The current best estimate is for a 210mm rise between 2000 and 2050. However this is an uncertain estimate and the figure could be as low as 100mm and as high as 550mm. To the climate-induced sea-level rise has to be added the movement of land, which is generally falling in the south-east, giving a combined estimated rise in the south-east of 410mm by 2050.
- 7.11 For coastal defence schemes DEFRA have adopted a relative sea-level rise of 6mm per year between 2000 and 2050 for the Agency's Southern Region.
- 7.12 The latest climate change scenarios suggest that annual rainfall is expected to increase by 0-10% by the 2050s with the largest increases in the north-west. A shift in the seasonal pattern of rainfall is also expected, with Winters and Autumn becoming wetter over the whole UK, by as much as 20% in some scenarios. It is also suggested that the number of rain-days and the average intensity of rainfall are expected to increase slightly and that average seasonal wind speeds could increase over most of the country. There is much less certainty regarding the potential increased storminess.
- 7.13 Initial research has suggested that severe events will become more frequent.
- 7.14 It is essential that the latest information on the effects of climate change be obtained to ensure that solutions to flooding are both robust and sustainable. The Government has established the UK Climate Impacts Programme to help organisations to assess their vulnerability to climate change and plan appropriate adaptation strategies. The climate change scenarios for the UK, published in 1998, are being revised and are expected to be published in 2002.

Change in Legislation

- 7.15 During the floods of Autumn 2000 and Winter 2000/01 the Country for a time saw its road, rail, air and sea transport infrastructure severely disrupted. Flooding became widespread and prolonged and many communities were both devastated and traumatised as their homes and personal possessions were inundated and in some cases destroyed by flood water.
- 7.16 The evidence suggests that the Agency, in partnership with local authorities and emergency services, has moved a long way towards delivering the "seamless and integrated service of flood forecasting, warning and response" called for by the Government after the Easter 1998 floods. However, the recent floods did challenge the adequacy of current design standards and demonstrated the confusion of responsibility for managing the wide variety of flood problems and also the need for a high degree of contingency planning in the public sector. Much, therefore, remains to be done to ensure a robust response in the future and to improve the standards of protection for many communities.

- 7.17 Following the Autumn 2000 floods the Agency produced a report, "Lesson Learned", from which certain recommendations and actions could result in changes in the way the service is provided. These relate to the responsibility for watercourse management and the need to resolve the current confusion; the need to put flood emergency planning on a sound statutory and financial footing; the possible modification of the permissive powers under which operating authorities work to ensure operating authorities gain a better understanding of the state and adequacy of existing defences, and the need for a significant increase in funding for flood defence on a planned basis.
- 7.18 The Government is likely to consider very closely the Agency's recommendations and there is no doubt that actions will follow, as they did after the Easter 1998 floods. The Government must also have its own ideas, and changes in the relevant legislation are possibly already being considered. We can only wait and see what role, if any, local authorities will have in land drainage and flood defence in the future.

8. STAFF RESOURCES

- 8.1 Staffing levels relating to the land drainage revenue budget for 2000/2001 were:

Principal Engineer	0.38 FTE
Assistant Engineer	1.84 FTE
Technical Clerk	<u>0.33</u> FTE
Total	2.55 FTE

- 8.2 There is also a small engineering design team, which works on capital schemes some of which relate to the land drainage function.

9. FINANCIAL IMPLICATIONS

Capital

- 9.1 Where applicable DEFRA grant aid is sought for land drainage capital schemes. From 1 April 2001 the maximum grant is 45%. Eligibility and the level of grant can only be assessed after a benefit/cost analysis has been carried out for a specific scheme. The balance of the capital cost is covered by the issue of Supplementary Credit Approvals (i.e. permission to borrow money), although this system of capital controls is about to change. The Council borrows the money to pay for the cost of the scheme net of grant. The Supplementary Credit Approvals are included in the Council's Standard Spending Assessment (SSA) on which the Revenue Support Grant (RSG) is based.

Revenue

- 9.2 The Government's assessment of what a council should spend, its Standard Spending Assessment (SSA), is calculated each year. Expenditure on land drainage, including repayments of capital loans, is specifically identified in the formula used to calculate the SSA, and the assessment for the next year reflects the previous year's actual expenditure. However, the Government does not meet the total expenditure because the Revenue Support Grant is approximately 60% of the SSA. The balance between the grant and the Council's budget has to be met by the Council's taxpayers.

Contributions from Riparian Owners

9.3 The Council exercises its powers to repair and improve existing watercourses where works are inappropriate in scale and/or cost for riparian owners' action. In such cases riparian owners may be asked for a financial contribution towards the works.

Contributions from Developers

9.4 Proposed development often has an impact on existing watercourses, particularly if there are already flooding problems. In such cases the Council may exercise its powers and carry out improvement works funded, or partly funded, by the developer. The developer should also contribute towards the future maintenance of any new land drainage works which the Council may have to maintain.

Bellwin Scheme

9.5 Under the Local Government Act 1972 local authorities can incur expenditure in the event of a major emergency or natural disaster. Where the Council is involved in responding to a major emergency, additional national taxpayers' money may be available to cover some of the related extraordinary costs. Certain costs become eligible under the 'Bellwin Scheme' once expenditure exceeds a threshold of 0.2% of the SSA. The Council has to meet all expenditure to the level of the threshold, after which the Government will provide assistance at 85% of the approved costs retrospectively. The DTLR determines thresholds, and expenditure is cumulative if the scheme is activated more than once a year.

9.6 The criteria used to assess costs are that:

- the circumstances involved an emergency which caused damage to life and or property;
- the costs are not insurable; and
- the authority is taking action to prevent suffering and severe inconvenience.

9.7 It is essential that an accurate record is kept of all expenditure incurred as a result of an emergency.

10. NFDC LAND DRAINAGE STRATEGY

Maintenance of Watercourses

10.1 There is absolutely no doubt that in general there is a complete lack of proper maintenance on watercourses, both locally and nationally. This is particularly evident when looking at the state of roadside ditches, which are generally the responsibility of the adjacent property owners. There are a number of reasons for this situation:

- Lack of awareness of responsibility by owners.
- Public bodies ceasing to spend scarce resources on maintaining assets not in their ownership due to cutbacks in funding.
- Changes in agricultural practices and funding.

- 10.2 The lack of maintenance on, and indiscriminate culverting of, watercourses is very often the main cause of flooding. Unfortunately, the land drainage system in the New Forest District Council area is so vast that it has not been possible to be proactive in requiring riparian owners to clear obstructed watercourses. Resources have only permitted the Council to be reactive, responding to flooding incidents or complaints, and in busy periods only where houses have been flooded internally or have been at risk of being flooded.
- 10.3 Investigating flooding incidents, watercourse routes and riparian ownership is extremely time consuming. Flooding problems related to neighbourly disputes often compound the difficulties. This often means that there is less time available to resolve serious flooding problems requiring flood defence works or watercourse improvements.
- 10.4 It is not recommended that more resources be thrown at the problem, as the task would be huge and the Council already spends a considerable amount of money on land drainage. There are two areas of activity that are already being looked at which could bring about considerable improvements. These are raising awareness of land drainage responsibilities, and working in partnership with Town and Parish Councils, HCC, the National Farmers' Union (NFU) and the large landowners as appropriate.
- 10.5 It is intended to include details of land drainage responsibilities in NFDC publications to raise awareness amongst riparian owners and those affected by flooding. The use of the Council's web site, press releases and other methods of disseminating information to the general public and residents on a more regular basis will also be explored.
- 10.6 Town and Parish Councils have been approached to seek their assistance in identifying and checking the condition of local watercourses and where these are obstructed to identify the riparian owners and inform them of their responsibilities. NFDC will provide information sheets and support and follow up with enforcement action or improvement works if considered necessary.
- 10.7 Initial discussions have taken place between NFDC and the National Farmers' Union (NFU) at the local level and HCC and the NFU at national level, on the unacceptable condition of the majority of roadside ditches. There have been differences of opinion in the past on responsibilities but under common law, upheld by case law, responsibility for a roadside ditch generally rests with the adjacent property owner. Further meetings are to take place to agree a way forward, possibly with the highway authority, district council and landowners working in partnership to bring about improvements. The intention is to select pilot areas to test partnership working.
- 10.8 A regular inspection and maintenance programme is to be set up for all of the land drainage works recorded on the database, which the Council has carried out and has an ongoing maintenance responsibility for.

Emergency Response

- 10.9 As in 10.6 above Town and Parish Councils have also been approached with regard to providing assistance during flooding emergencies. When widespread flooding occurs throughout the district this Council does not have the resources to provide for a timely distribution of sandbags to all of those property owners who have requested them. Some of these local councils have already provided assistance by storing and distributing sandbags, and it is hoped to extend this partnership working to other areas and develop it further if possible. Further meetings will take place.
- 10.10 During Autumn 2000 and Winter 2000/01 the Council made up and delivered more than 25,000 sandbags throughout the district at a cost of more than £100,000. Where delivery was not timely, they would not have prevented property being flooded and in some cases flooding was caused by ground water coming up through the floor. It is also important to note that in many cases property had been flooded or come close to being flooded on previous occasions.
- 10.11 The cost effectiveness and usefulness of sandbags as a temporary means of flood prevention needs to be seriously questioned. The practice of providing sandbags to the owners of property previously flooded or continually at risk of being flooded also needs to be questioned. It is proposed to carry out a comprehensive review of the Council's policy on providing sandbags before and during flooding emergencies.

DEFRA High Level Targets

- 10.12 The identification, inspection and monitoring of flood defences and critical ordinary watercourses, as required under the High Level Targets, are essential and worthwhile activities. Under the policy statement the Council has agreed to comply with the relevant targets.
- 10.13 To help ensure that these are properly maintained it is proposed that the owners of the flood defences and critical ordinary watercourses be established. Details will then be incorporated into the database and linked to the GIS to enable quick and easy access to riparian owner details.
- 10.14 Work activities under the High Level Targets are ongoing and it is possible that the targets will be modified following the lessons learned from the recent floods and the implementation of any subsequent recommendations and changes in legislation.

Catchment Plans

- # 10.15 A key part of the previous land drainage strategy was the introduction of a Catchment Management study. The study has been carried out as a series of studies on the catchments of the more important ordinary watercourses within the district, and the preparation of catchment plans. Progress has been slow on the study due to the amount of work required to complete a plan, which involves the completion of a survey and report and where appropriate a flow survey and computer model. A progress report is given in Appendix 8.

- 10.16 Work on the catchment studies was put on hold following the introduction of DEFRA's High Level Targets. The Targets were a high priority and introduced a new category of ordinary watercourse, the critical ordinary watercourse. The Government's requirement is for the identification, inspection and regular monitoring of flood defences and critical ordinary watercourses. At this stage there is no requirement for Councils to prepare catchment plans for the identified critical ordinary watercourses.
- 10.17 The Agency is intending to carry out catchment studies on the main rivers, which may include the more significant ordinary watercourse tributaries, particularly those that are considered critical. If this Council continues with its Catchment Management Study it will require additional resources and increase in the land drainage budget if it is also to meet the DEFRA High Level Targets. At the present time it is considered prudent to keep work on the Catchment Management Study on hold. The situation should be reviewed when the findings and recommendations following the recent flooding are known and the Agency provides details of the extent of their catchment studies.

Sustainable Urban Drainage Systems

- 10.18 The design of modern urban development and the management of water cycles now require levels of efficiency and effectiveness that are measured in terms of sustainability. SUDS introduce drainage methods inspired by natural processes, which take account of the quality and quantity of run-off and are designed to reduce flooding and diffuse pollution.
- 10.19 Local authorities have the role of implementing Agenda 21 and developing strategies to secure sustainability at a local level. This general principle applies to drainage, and consideration of sustainable urban drainage is now being included in development plans and regional planning guidance. NFDC planning policies and development plans include measures to ensure the use of SUDS to control surface water run-off.
- 10.20 There is no clear guidance on the ownership and maintenance of SUDS, which by their nature can be considered either drainage or landscape features. There is reluctance by the various authorities to take on responsibility for SUDS and their future maintenance. This has become a barrier to developers using SUDS who would prefer to use conventional piped systems as their ownership and maintenance is clearly defined in Sewers for Adoption 4th Edition, published by the Water Research Centre (WRC). A framework agreement is on a two-year trial in Scotland. Local authorities and water authorities share responsibility for drainage from land, roads and properties. The local authority maintains above ground SUDS, while the water authority maintains below ground SUDS. Obviously consideration should be given to developers paying commuted sums to cover the cost of future maintenance.

- 10.21 It is suggested that NFDC has a more robust policy on SUDS to encourage more developers to incorporate them in their developments. A leaflet should be produced to bring the policy to the attention of developers and promote the use of SUDS. Consideration should be given to having a formal launch for the policy with a seminar run jointly with the Agency for Council Members and developers. If the Scottish trials are successful the Council should also give consideration to taking over responsibility for above ground SUDS. This needs to be the subject of a separate report.

Development in Floodplain

- 10.22 PPG25 states that local planning authorities should address the problems which flooding can cause by:
- recognising that the susceptibility of land to flooding is a material planning consideration;
 - giving appropriate weight to information on flood-risk and how it might be affected by climate change in preparing development plans and considering individual proposals for development;
 - consulting the Agency, which has the lead role in providing advice on flood issues at a strategic level and in relation to planning applications;
 - applying the precautionary principle to decision-making so that risk is avoided where possible and managed elsewhere;
 - improving the information available to the public about risks of locating human activities in areas susceptible to flooding;
 - taking into account the responsibility of owners for safeguarding their own property;
 - recognising that floodplains and washlands have a natural role as a form of flood defence as well as providing important wildlife habitats and adding to landscape value; and
 - recognising that engineered flood reduction measures may not always be the appropriate solution, since they can have economic and environmental costs and impacts on the natural and built environment, need maintenance and replacement and cannot eliminate all risk of flooding.
- 10.23 The Council, in its role of a planning authority, must take early action to implement the advice given in PPG25. In adopting its policies and practices, the Council must have full regard to PPG25, considering carefully all the circumstances in its area. The Government will monitor the effectiveness of PPG25 through High Level Target 12. There are likely to be challenging times ahead for officers and Members involved in the planning process. Members have been briefed on the draft document but it would be advisable to have a workshop for Members and officers on the guidance given in PPG25. This could be done in conjunction with the Agency at the same time as a presentation on SUDS.

Land Drainage Byelaws

- 10.24 Although the previous Land Drainage Strategy referred to their possible introduction, the Council has not introduced land drainage byelaws. The introduction of byelaws will result in the relevant watercourses becoming controlled watercourses. This would result in the Council having to ensure that the byelaws were complied with, and taking on some responsibility for the watercourse.
- 10.25 If blanket byelaws were introduced on all watercourses the resources required for adequate policing would be significant. This would require an increase in the land drainage budget. For most watercourses, however, the Council probably has sufficient controls available through the planning process and using its relevant land drainage powers.
- 10.26 The situation could be considered different for the more substantial ordinary watercourse, including those identified as critical. Certain development which does not require planning permission, such as the construction of small walls, fences and garden sheds, could take place within the flood plain and have an impact on flow regimes and therefore flooding. The Council's land drainage powers are unlikely to apply to such development, resulting in little control.
- 10.27 It may be prudent to consider introducing land drainage byelaws on the critical ordinary watercourses identified under the High Level Targets. With over 19km of critical ordinary watercourses identified, this will still have a noticeable resource implication and require additional budgetary provision. It is considered that this should therefore be the subject of a detailed investigation and report at a future date.

Best Value

- 10.28 The Best Value process will entail a rigorous review of the land drainage and flood defence service. It is likely that the review will result in a number of recommendations for improvement in how the service is delivered to be implemented from 2003/04 onwards.

Summary of Proposals

10.29 Maintenance of Watercourses

- Bring about a general improvement in the condition of watercourses by:
 - raising public awareness of land drainage responsibilities through articles in Council and other media publications, and
 - raising awareness of land drainage responsibilities with riparian owners through partnership working with Town and Parish Councils, the Agency, HCC and the National Farmers' Union.
- Set up and operate an ongoing inspection and maintenance programme for land drainage works for which the Council has a responsibility.

10.30 Emergency Response

- Improve emergency response time and level of service through partnership working with Town and Parish Councils.
- Review Council policy on sandbag provision during flooding emergencies.

10.31 DEFRA High Level Targets

- Comply with High Level Targets.
- Identify land ownership for critical ordinary watercourses and include on GIS.

10.32 Catchment Management Plans

- Put preparation of catchment plans on hold and review situation annually or when resources become available.

10.33 Sustainable Urban Drainage Systems

- Develop a strategy to raise the awareness of SUDS within the Council and with developers.
- Develop a Council policy on accepting responsibility for the future maintenance of certain types of SUDS (i.e. above ground systems).

10.34 Development in Floodplain

- Initiate and implement an awareness campaign for officers, Members and developers in respect of PPG25. (Possibly in conjunction with SUDS).

10.35 Land Drainage Byelaws

- Consider the introduction of land drainage byelaws in respect of critical ordinary watercourses.

10.36 Best Value

- On completion of the best value review, implement any recommendations.

LAND DRAINAGE & FLOOD DEFENCE STRATEGY

ABBREVIATIONS AND DEFINITIONS

ABBREVIATIONS

Agency	Environment Agency (for England and Wales)
DEFRA	Department for Environment, Food and Rural Affairs (supersedes MAFF)
DETR	Department for Environment, Transport and the Regions
DTLR	Department for Transport, Local Government and the Regions (supersedes DETR)
EA 1995	Environment Act 1995
HA 1980	Highways Act 1980
LDA 1991	Land Drainage Act 1991
LDA 1994	Land Drainage Act 1994
LFDC	Local Flood Defence Committee
LGA 1992	Local Government Act 1992
MAFF	Ministry of Agriculture Fisheries and Food
NRA	National Rivers Authority
PHA 1936	Public Health Act 1936
RFDC	Regional Flood Defence Committee
S.	Section number of an Act of Parliament
SS.	Section numbers of an Act of Parliament
SSSI	Site of Special Scientific Interest
WIA 1991	Water Industry Act 1991
WRA 1991	Water Resources Act 1991

STATUTORY DEFINITIONS

Critical Ordinary Watercourse

Is a watercourse that is not classified as “main river” but which the Agency and other operating authorities agree is critical because it has the potential to put at risk from flooding large numbers of people and properties.

Drainage

Includes defence against water (including sea water), irrigation other than spray irrigation, warping and the carrying on, for any purpose of any other practice which involves management of the level of the water in a watercourse (S.72(1)LDA 1991 and S.113(1)WRA 1991 as amended by S.100 EA 1995). References in the LDA 1991 to the carrying out of drainage works include references to the improvement of drainage works (S.72(5) LDA 1991).

Drainage Body

Means the Agency, an internal drainage board or any other body having the power to make or maintain works for the drainage of land (S.72(1) LDA 1991).

Flood Defence

Means the drainage of land and the provision of flood warning systems (S.113(1) WRA 1991).

Flood Warning System

Means any systems whereby, for the purpose of providing warning of any danger of flooding, information with respect to specified matters is obtained and transmitted whether automatically or otherwise, with or without provision for carrying out calculations based on such information and for transmitting the results of those calculations. The specified information is with respect to: (a) rainfall, as measured at a particular place within a particular period; (b) the level of flow of any inland water, or any part of an inland water, at a particular time; and (c) other matters appearing to the Agency to be relevant to providing warning of any danger of flooding (S.148(5) WRA 1991).

Local Authority

Means the council of a county, county borough, district or London borough or the Common Council of the City of London (S.72(1) LDA 1991 and S.221(1) WRA 1991).

Main River

Means a watercourse shown as such on a main river map and includes any structure or appliance for controlling or regulating the flow of water into, in or out of the channel which: (a) is a structure or appliance situated in the channel or in any part of the banks of the channel; and (b) is not a structure or appliance vested in or controlled by an internal drainage board (S.113(1) WRA 1991, and see S.137(4) WRA 1991).

Operating Authorities

The public sector organisations that are responsible for providing defence from flooding.

Ordinary Watercourse

Means a watercourse that does not form part of a main river (S.72(1) LDA 1991 and see the definition of 'main river' above).

Public Sewer

Means a sewer for the time being vested in a sewerage undertaker in its capacity as such, whether vested in that undertaker by virtue of a scheme under Schedule 2 to the WA 1989, S.179 of or Schedule 2 to the WIA 1991 or otherwise (S.221 (1) WRA 1991, and S.219(1) WIA 1991).

Sewer

Includes all sewers and drains which are used for the drainage of buildings and yards appurtenant to buildings, excluding a drain used for the drainage of one building or of buildings or yards appurtenant to buildings within the same curtilage (S.219(1) WIA 1991, and S.221(1) WRA 1991). References to a 'sewer' are to include references to a tunnel or conduit which serves similarly or to any accessories thereof (S.219(2) WIA 1991, and S.221(2) WRA 1991).

Watercourse

Includes all rivers and streams and all ditches, drains, cuts, culverts, dykes, sluices, sewers (other than public sewers within the meaning of the WIA 1991) and passages through which water flows (S.72(1) LDA 1991, and above on the meaning of 'public sewer', similarly see S.113(1) WRA 1991 but contrast S.221(1) WRA 1991).

App_1

PRINCIPAL LEGISLATION

ENVIRONMENT ACT 1995

Section 6 Imposes a duty on the Environment Agency (Agency) to exercise a general supervision over all matters relating to flood defence, which includes the drainage of land.

WATER RESOURCES ACT 1991

Section 107 Defines the permissive powers which are available to the Agency in respect of main rivers, and deals with maintenance, improvement works and construction.

Section 109 Gives power to the Agency to control the erection, alteration and repair of structures in, over or under main rivers.

Section 165 Gives powers to the Agency, in connection with main rivers and for the purpose of defence against sea water or tidal water, to maintain and improve existing works and construct new works.

LAND DRAINAGE ACT 1991

Section 14 Confers powers on District Councils, amongst others, of the same kind as those given to the Agency and the Internal Drainage Boards (IDBS) in relation to the prevention, mitigation and remedying of flood damage. It gives District Councils powers to maintain and improve existing 'ordinary' watercourses and to construct new works.

Section 25 Gives powers to District Councils, amongst others, to enable them to serve notice on persons requiring them to carry out necessary works to maintain the flow of 'ordinary' watercourses.

Section 17 & Section 26 Require a District Council, amongst others, to obtain the consent of the Agency before the exercising of any of the powers listed above.

Section 66 Enables a District Council, amongst others, to make byelaws to secure the efficient working of the drainage system in its area.

LAND DRAINAGE ACT 1994

Sets out the environmental obligations of local authorities.

PUBLIC HEALTH ACT 1936

- Section 259 Confers on local authorities statutory nuisance powers concerning a polluted pool, pond, ditch, gutter or watercourse which causes a nuisance or gives rise to conditions prejudicial to health.
- Section 260 Confers similar powers to deal with problems resulting from drainage, filth, stagnant water or matter which is likely to be prejudicial to health. Powers are conferred to execute works, including maintenance or improvement works.
- Section 262 Enables local authorities to require developers to culvert watercourses or ditches on or abutting land they are intending to lay out for building.
- Section 263 Prohibits the culverting of watercourses and ditches except in accordance with plans and sections to be submitted to and approved by the Local Authority.
- Section 264 Enables local authorities to require a landowner to repair, maintain and cleanse culverts in watercourses in, on or under his land.

LOCAL GOVERNMENT ACT 1972

- Section 138 Enables a Council to incur expenditure to avert, alleviate or eradicate the effects or potential effects of any emergency or disaster but not to carry out works on main river.

TOWN & COUNTRY PLANNING ACT 1990

- Section 106 Enables an obligation to be sought in which the developer undertakes to pay for the necessary drainage improvements before planning permission is granted for major development which will increase the run-off into a watercourse prone to flooding.

For further information refer to:

"Land Drainage and Flood Defence Responsibilities" 3rd edition
Institution of Civil Engineers

App_2

Flood and coastal defence

High level targets

Contents

- Foreword
- Part 1: Introduction
- Part 2: DEFRA aims and objectives
- Part 3: Approach adopted
- Part 4: Targets
 - Target 1 - Policy statements
 - Target 2 - Provision of flood warnings
 - Target 3 - Emergency exercises and emergency plans
 - Target 4 - National Flood and Coastal Defence Database
 - Target 5 - Flood defence inspections and assessment of flood risk
 - Target 6 - Coast protection inspections and assessment of coastal erosion risk
 - Target 7 - Expenditure programmes
 - Target 8 - Shoreline Management Plans (SMPs)
 - Target 9 - Biodiversity
 - Target 10 - Water Level Management Plans (WLMPs)
 - Target 11 - Coastal Habitat Management Plans (CHaMPs)
 - Target 12 - Development in areas at risk of flooding
 - Target 13 - Development in areas at risk of coastal erosion
 - Target 14 - IDB Administration and Membership
 - Environment Agency's elaboration of its supervisory duty

Foreword

I am acutely aware of the importance of flood and coastal defence for the country. We are an island nation whose coasts and river systems are regularly challenged by storms and other severe weather. Many of us rely on flood and coastal defences for protection of our lives and the possessions we hold dear and if defences are in danger of being breached, we want to be warned so that we can take the necessary action. Flood and coastal defences also play an important role in maintaining our national way of life. They protect important infrastructure and other economic assets. Many wildlife habitats of international importance rely on such defences.

When the Agriculture Select Committee produced its report on flood and coastal defence in August 1998, they were generally supportive of the Government's policies and approach to flood and coastal defence. They did, however, express concern that mechanisms were not in place to ensure that the policy and approach were delivered by the operating authorities "on the ground". As a response to this concern, we are putting into place the targets set out in this paper. The targets are mainly - but not exclusively - directed at the flood and coastal defence operating authorities and cover many of the most important issues in the delivery of the service. They complement work that the Environment Agency has undertaken in response to my call for a seamless and integrated service of flood forecasting, warning and response.

I have been impressed at the degree of support that there has been for the concept of targets, both within the operating authorities and among other bodies with an interest in flood and coastal defence. The targets have been drawn up following extensive consultation, and they have been agreed with representatives of the operating authorities. I particularly welcome the very positive spirit in which the operating authorities have approached the establishment of targets, the great co-operation they have given the Ministry in their development, and their evident commitment to implement them.

The document also contains the Environment Agency's elaboration of its flood defence supervisory duty. This has been produced in parallel to the targets, and is designed to complement them. It too has been agreed with representatives of the other operating authorities.

We will be monitoring achievement of targets, and keeping them under review. There are significant reporting requirements and I shall be ensuring that Parliament is kept informed of developments. Meanwhile, I commend them to all those involved in flood and coastal defence.

[signed]

Elliott Morley MP
Minister for Fisheries and the Countryside
Ministry of Agriculture, Fisheries and Food
November 1999

High level targets for flood and coastal defence

Part 1: Introduction

1.1 This paper contains high level targets for flood and coastal defence which will operate from 1 April 2000.

1.2 In August 1998 the Agriculture Select Committee published its report on flood and coastal defence. The Government response, published in October 1998, *inter alia* committed DEFRA to prepare a series of high level targets which will be necessary in order to deliver its flood and coastal defence aims and objectives. A set of interim targets were published in May 1999 along with a first elaboration of the Environment Agency's general flood defence supervisory duty.

1.3 In publishing interim targets, MAFF undertook to produce more comprehensive targets to operate from 1 April 2000. The targets in this document fulfil that commitment and have been produced following wide consultation with relevant organisations.

1.4 The targets in this document supersede the interim targets published in May 1999. Where relevant they reflect the elaboration of the Environment Agency's supervisory duty and work flowing from the Agency's Action Plan for implementing the Independent Report on the Easter 1998 floods (the "Bye Report"). As the principal operating authority, and with its general flood defence supervisory responsibilities, the Environment Agency will have a key role in achievement of these targets, through advice to operating authorities, monitoring and reporting.

1.5 In considering the targets, the following definitions might be helpful:

"flood defences" are defences for the alleviation of flooding whether from rivers or the sea;

"coastal defence" is an overarching term that includes both defence from flooding from the sea, and coast protection;

"coast protection" are measures to protect the land against erosion and encroachment by the sea;

"critical ordinary watercourses" are watercourses that are not classified as "main river" but which the Environment Agency and other operating authorities agree are critical because they have the potential to put at risk from flooding large numbers of people and property.

1.6 The targets include requirements to report to MAFF and others on a number of matters. The intention is that reports will be published, so providing greater openness and accountability in the provision of the flood and coastal defence service.

Part 2: MAFF aims and objectives

2.1 The adoption of a series of targets provides a framework for ensuring and demonstrating delivery of the Government's stated policy aims and objectives for flood and coastal defence, as set out in the 1993 Strategy for Flood and Coastal Defence in England and Wales. The stated policy aim of MAFF and the National Assembly for Wales (NAW) is:

To reduce the risk to people and the developed and natural environment from flooding and coastal erosion by encouraging the provision of technically, environmentally and economically sound and sustainable defence measures.

2.2 The key objectives to achieve the policy are:

To encourage the provision of adequate and cost effective flood warning systems.

To encourage the provision of adequate, economically, technically and environmentally sound and sustainable flood and coastal defence measures.

To discourage inappropriate development in areas at risk from flooding and coastal erosion.

2.3 MAFF's published policy aim and targets are carried forward to its Public Service Agreement (PSA), the target for which is:

By March 2000, publish targets for flood and coastal defence operating authorities which will ensure the effective delivery of sustainable flood defence and coast protection policies and prevent loss of life through flooding (including by timely and effective warning systems).

2.4 The linked Output and Performance Measures are:

The number of lives lost through flooding.

The aggregate benefit:cost ratio for grant aided flood and coastal defence schemes [the aim is to achieve 5:1 or better].

Part 3: Approach adopted

3.1 The targets in this document are intended to facilitate a more certain delivery of national policies and objectives for flood and coastal defence. In particular, operating authorities are being asked to provide policy statements setting out how they will contribute to the delivery of these aims and objectives. The targets also put in place arrangements for a more systematic gathering of information about the nature and status of defences thus facilitating assessment of the integrity of defences and the taking of any necessary remedial action. Reports will be published.

3.2 The aim is to build on best practice, assisting operating authorities to undertake activities that can reasonably be required of them in safeguarding human life as well as economic and environmental assets. Some targets flow from agreed actions following the "Bye Report" for which additional specific funding has already been made available.

3.3 The targets in this paper apply primarily to flood and coastal defence operating authorities. However, some targets apply to local authorities in their capacity as local planning authorities and also as bodies responsible for emergency planning. There are also targets applicable to English Nature. The targets have been prepared in consultation with the Environment Agency, the Local Government Association and the Association of Drainage Authorities, as well as with the Home Office, Department of the Environment, Transport and the Regions, English Nature and other relevant statutory and non-statutory organisations.

3.4 These targets are dynamic; they will be kept under review and updated as necessary. In particular, MAFF is undertaking further research into the economic impacts of flooding and coastal erosion, which might lead to a revision of the Ministry targets and, in turn, revised targets for operating authorities. MAFF aims and objectives will also need to be reviewed in the forthcoming Government Spending Review, leading to a review of targets.

3.5 These targets need to be read alongside the legislation applicable to flood and coastal defence operating authorities, all other statutory requirements including those relating to the environment, and guidance issued by MAFF and other Government Departments.

Part 4: Targets

4.1 The primary aim of targets is to ensure a more certain delivery of MAFF's stated policy aims and objectives for flood and coastal defence and this is directly reflected in the following target. The statements will relate to the area covered by the operating authority and are expected to include general information about the nature of flood and erosion risks in the area including what is defended; where appropriate, the plans for mitigation of that risk, including management and inspection of existing works, and any new works. Statements should also cover issues such as how best practice will be adopted and shared; policies on developer contributions; and commitments to comply with sustainability policies and environmental obligations and targets.

4.2 Local authority statements will be expected additionally to cover their approach to flood and coastal defence aspects of emergency planning and development control, as well as flood warning and advice to local planning authorities.

4.3 The Environment Agency statement will be expected to cover the arrangements for ensuring that local authorities are informed about potential flood risks, so that these can be reflected in their emergency plans and in advice on development control.

4.4 MAFF has produced a template for completing these statements. The appendix mentioned in the template is a list of the targets set out below. A worked example is also available for use by operating authorities when preparing their own policy statements.

Target 1 - Policy statements	By when	By whom
A. Produce, and copy to Environment Agency, MAFF and DETR, a publicly available policy statement setting out plans for delivering the Government's policy aims and objectives.	31 March 2001	All operating authorities
B. Report to MAFF and DETR on: (i) completion of these policy statements; and (ii) information collated from them.	30 September 2001 and subsequently by agreement with MAFF	Environment Agency

Flood warning and emergency response

4.5 The first MAFF objective for flood and coastal defence is:

"to encourage the provision of adequate and cost effective flood warning systems".

4.6 An interim target was for the Environment Agency to produce, by March 2000, "an agreed target for provision of flood warning in terms of population and areas covered". This target is incorporated below. It will be for the Agency, working through flood defence committees, to develop and implement the programme of works to achieve this target. The provision of flood warning systems remains MAFF's highest priority for the provision of grant.

Target 2 - Provision of flood warnings	By when	By whom
In conjunction with local authorities, emergency services and other partners -		
A. Develop a method for categorising the flood risk to an area for flood warning purposes.	1 April 2000	Environment Agency
B. Determine where a flood warning service can be provided and the appropriate dissemination arrangements using the method developed.	1 September 2000	
C. Determine and publish flood warning service standards for each area at risk of flooding.	1 September 2000	
D. Report to MAFF on achievement of service standards.	Annually from 1 April 2001	

4.7 The following targets relate to emergency exercises to test emergency plans, rolling forward and expanding the relevant interim targets. The targets are designed to be complementary to the "standards approach" that Home Office is promulgating with local authority emergency planning departments.

Target 3 - Emergency exercises and emergency plans	By when	By whom
<p>A. Arrange, in conjunction with local authorities, emergency services and other partners, a programme of flood emergency exercises at national, regional and local levels. A national exercise, and an exercise in each Agency region and local area should be conducted by 31 December 2001 (after the introduction of new flood warning codes) and at not more than three-yearly intervals thereafter.</p>	<p>Annually from 1 January 2001</p>	<p>Environment Agency</p>
<p>B. Report to MAFF on:</p> <ul style="list-style-type: none"> • the forward programme of emergency exercises; • the results of emergency exercises in the previous year, including lessons learned; and • those areas where the Agency and local authorities have, and have not, reviewed and agreed emergency plans within the previous two years. 	<p>Annually from 1 January 2001</p>	<p>Environment Agency</p>

Provision of flood and coastal defence measures

4.8 The second MAFF objective is:

"To encourage the provision of adequate, economically, technically and environmentally sound and sustainable flood and coastal defence measures."

4.9 It is not appropriate to set specific targets for the provision of flood and coastal defences. Operating authorities work within a legislative framework that is essentially permissive. MAFF has already provided guidance to operating authorities on the factors which influence investment decisions though final responsibility rests with them, taking account of such guidance and other factors including the availability of resources.

4.10 Consideration will, however, be given later to the establishment of appropriate targets in the light of the results of research, currently being undertaken, on the economic benefits of flood and coastal defence.

4.11 The following targets 4-7 are linked. They build on the creation and maintenance of a new National Flood and Coastal Defence database managed by the Environment Agency from September 2000 (the subject of interim targets). They roll forward and develop various interim targets, particularly for ensuring that information on the database is updated, that defences on the database are inspected, that flooding or erosion risks are assessed, and that appropriate action is taken to ensure the defects are remedied, and that work programmes are provided. In setting these targets account has been taken of the further elaboration of the Environment Agency's general flood defence supervisory role, and the fact that the Agency, while maintaining information about coast protection works on its database, does not have statutory responsibility for coast protection.

4.12 The database is currently being developed by the Agency and details of the structure and the information that it will contain are still under consideration. Particular consideration will be given to structuring the data so that eventually all assets which protect a particular risk area can be readily identified and any changes to the risk profile of each area readily evaluated. The database should also include information on important assets (eg environmental or economic) that are within risk areas. Consideration should also be given to including the facility for monitoring losses or gains in habitats covered by Biodiversity Action Plans as a result of flood and coastal defence operations (Target 9B).

Target 4 - National Flood and Coastal Defence Database	By when	By whom
<p>A. Develop a National Flood and Coastal Defence Database and maintain it thereafter. The database should include information from other operating authorities (Target 4B) and on assets which provide a flood and coastal defence service that are in private or other ownership.</p> <p>B. Provide the Environment Agency with information on flood and coastal defence assets that are the responsibility of the operating authority. Such information should be in an agreed format and provided in the first instance by September 2000, and updated within one month of completion of any significant change, including creation, alteration, destruction or abandonment.</p> <p>C. Reach agreement with the other operating authorities on the means by which private defences will be identified and incorporated in the database.</p> <p>D. Provide timely information from the database to other operating authorities to fulfil their obligations. The detail and frequency of such reports to be agreed, as necessary.</p>	<p>1 September 2000</p> <p>1 September 2000 and ongoing thereafter</p> <p>1 April 2000</p> <p>From 1 January 2001</p>	<p>Environment Agency (in partnership with other operating authorities)</p> <p>All operating authorities</p> <p>Environment Agency</p> <p>Environment Agency</p>

Target 6 - Coast protection inspections and assessment of coastal erosion risk	By when	By whom
<p>A. Ensure that a programme is in place for the regular* inspection of all coast protection assets included in the database, including those which are in private or other ownership.</p> <p>* The frequency of inspection should be risk based, taking account of factors such as the status, nature and significance of the defence.</p> <p>B. Report to MAFF on its assessment of the risk of coastal erosion from those assets. The report will also set out the action taken (eg to remedy the deficiency, adapt to a lower standard of defence, abandon defence) saying also if it is proposed to use enforcement powers or adopt a defence operated by others. Reports will also detail progress on remedying deficiencies highlighted in previous years' reports. In producing reports, the Groups should draw on information from <i>inter alia</i> inspections, policy statements (Target 1) and the database (Target 4).</p> <p>(This to reflect the necessary phasing adopting a risk-based assessment with comprehensive reporting from April 2002.)</p>	<p>Annually from 1 April 2000</p> <p>Annually from 1 April 2001</p>	<p>Coast protection authorities through Coastal Defence Groups</p>

Target 7 - Expenditure programmes	By when	By whom
<p>Provide to MAFF a prioritised forward programme of capital and maintenance work for the assets on the database. This should cover the current and following 3 year period. Where appropriate, programmes should include proposed expenditure on any assets in third party or other ownership.</p>	<p>Annually from 1 April 2000</p>	<p>All operating authorities</p>

4.13 Shoreline Management Plans (SMPs) have been promoted by MAFF as a means for ensuring that coastal defences are planned in a strategic manner and in consultation with relevant interests. The interim target was for SMPs to be completed for the coastline of England by 31 December 1999. However, SMPs are intended to be "living" documents and subject to regular review and updating leading to the following target.

Target 8 - Shoreline Management Plans (SMPs)	By when	By whom
<p>Flowing from the policy statement in Target 1, have in place, and provide to MAFF, a programme for:</p> <ul style="list-style-type: none"> • completing strategy plans necessary to implement SMPs; and • updating SMPs in accordance with MAFF guidance planned to be issued in 2000. 	December 2001	Relevant operating authorities

4.14 MAFF is committed to playing its part in wider Government policies for the protection of the environment and biodiversity, and acknowledges that flood and coastal defence measures can play a significant part in this. As a minimum, flood and coastal defence measures must be environmentally sound. However, operating authorities are positively encouraged to seek and consider opportunities for environmental enhancement when selecting flood and coastal defence options at a strategic level and in developing schemes. In addition, operating authorities are subject to specific statutory obligations and targets (including measures to protect SACs, SPAs, Ramsar sites and SSSIs). It is intended that, through the policy statements (Target 1), operating authorities will acknowledge these requirements, and also set out the arrangements that they have in place for compliance to protect and enhance the environment when carrying out works. The following, more specific targets, will also apply.

Target 9 - Biodiversity	By when	By whom
<p>A. In addition to statutory obligations, when carrying out flood and coastal defence works aim:</p> <ul style="list-style-type: none"> • to avoid damage to environmental interest; • to ensure no net loss to habitats covered by Biodiversity Action Plans; and • seek opportunities for environmental enhancement. 	Ongoing	All operating authorities
	Annually from 1 April 2001	All operating authorities
<p>B. Report to the Environment Agency on all losses and gains of habitats covered by Biodiversity Action Plans as a result of their flood and coastal defence operations.</p>	Annually from 1 July 2001	Environment Agency
<p>C. Report to MAFF on the collated information from Target 9B.</p>		

Target 10 - Water Level Management Plans (WLMPs)	By when	By whom
<p>A. In partnership with English Nature, complete WLMPs:</p> <ul style="list-style-type: none"> • in European sites • in other SSSIs. <p>B. Have in place a programme for implementing and reviewing WLMPs (flowing from the policy statement in Target 1).</p> <p>C. Report to MAFF on operating authorities' progress in implementing and reviewing WLMPs against their published programme.</p>	<p>30 March 2000 31 Dec 2000 1 April 2001</p> <p>Annually from 1 April 2002</p>	<p>Relevant operating authority</p> <p>Relevant operating authority</p> <p>Environment Agency</p>

Target 11 - Coastal Habitat Management Plans (CHaMPs)	By when	By whom
<p>A. Identify sites where a CHaMP is needed and produce a programme for their completion.</p> <p>(NB Consideration is currently being given to the arrangements for inland sites covered by the Habitats Directive. Appropriate targets will be set in due course.)</p> <p>B. Report to MAFF on progress in CHaMP completion.</p>	<p>31 December 2000</p> <p>Annually from 1 April 2002</p>	<p>English Nature (in partnership with the Environment Agency and other operating authorities).</p>

Development control

4.15 MAFF's third objective for flood and coastal defence is:

"To discourage inappropriate development in areas at risk from flooding and coastal erosion."

4.16 The Environment Agency is a statutory consultee in the preparation of development plans while guidance to local planning authorities (contained within DoE Circular 30/92 "Development and Flood Risk") encourages local authorities to use their planning powers to guide development away from areas that may be affected by flooding, or which would itself increase flood risks or interfere with flood control works or maintenance. Following recommendations from the Agriculture Select Committee in its report on flood and coastal defence, this guidance is being reviewed and updated by DETR. The revised guidance is also expected to emphasise the need to seek contributions from developers towards the cost of flood and coastal defence works necessary as a result of the development. The following targets are complementary to that guidance to LPAs on development in the flood plain and to the Agency's revised internal guidance on the advice to local authorities on development in the flood plain (an interim target). There are also targets relating to development in areas at risk of coastal erosion.

Target 12 - Development in areas at risk of flooding	By when	By whom
<p>Report to MAFF and DETR on:</p> <ul style="list-style-type: none"> • those local authority development plans upon which the Agency have commented, identifying plans which do, and do not, have flood risk statements or policies; and • the Agency's response to planning applications, identifying cases where: <ul style="list-style-type: none"> (i) the Agency sustained objections on flood risk grounds; and (ii) final decisions, either by the LPA or on appeal, were in line with, or contrary to, Agency advice. <p>(This target does not preclude the Agency from taking immediate and relevant action, eg to request Ministerial call-in of particularly significant cases.)</p>	<p>Annually from June 2000</p>	<p>Environment Agency (in partnership with local planning authorities)</p>

Target 13 - Development in areas at risk of coastal erosion	By when	By whom
<p>Report to MAFF and DETR on:</p> <ul style="list-style-type: none"> • local authority development plans identifying the extent to which they contain coastal erosion statements and reflect the assessed risk of coastal erosion as set out in <i>inter alia</i> Shoreline Management Plans; • planning applications where coastal erosion was a material consideration and any conflicts between the final decision, either by the LPA or on appeal, with the assessed risks of coastal erosion. 	<p>From June 2000</p>	<p>Coast protection authorities through Coastal Defence Groups</p>

Funding and administration

4.17 In its response to the Agriculture Select Committee report on flood and coastal defence, the Government did not accept that changes should be made to the present institutional arrangements for flood and coastal defence. It did, however, agree that a joint MAFF/DETR review should be conducted on the funding mechanisms and this is currently under way. It has been decided that another commitment in relation to the ASC report, consideration of the future need for local flood defence committees (LFDCs), should follow the funding review.

4.18 The following targets are intended to bring about improvements in the present arrangements for IDB administration and membership.

Target 14 - IDB Administration and Membership	By when	By whom
A. Produce and distribute to IDBs guidance on: <ul style="list-style-type: none">• the means by which efficiency can be improved through amalgamations and consortia; and• ensuring that relevant interests are reflected in membership of Boards.	1 June 2000	Association of Drainage Authorities in conjunction with MAFF, Environment Agency and LGA
B. Report to MAFF on progress in implementing this guidance.	Annually from 1 June 2001	Association of Drainage Authorities

**Ministry of Agriculture, Fisheries and Food
Flood and Coastal Defence with Emergencies Division
November 1999**

See also the **Environment Agency's elaboration of its flood defence supervisory duty**. It addresses issues that are complementary to the above high level targets.

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Elaboration of the Environment Agency's Flood Defence Supervisory Duty

Contents

- [Definitions](#)
- [Background](#)
- [Introduction](#)
- [The Agency's Supervisory Duty](#)

Definitions

In considering flood and coastal defence issues some definitions might be helpful:-

- **Main rivers** are watercourses designated as such on main river maps and are generally the larger arterial watercourses.
- **Ordinary watercourses** are all those watercourses that are not designated as main river.
- **Sea defences** are measures to help prevent flooding from the sea.
- **Coast protection** are measures to protect the land against erosion and encroachment by the sea.
- **Coastal defence** is an overarching term that includes both sea defence and coast protection.
- **Critical ordinary watercourses** are ordinary watercourses which the Environment Agency and other operating authorities agree are critical because they have the potential to put at risk from flooding large numbers of people and property.

Background

The public sector organisations that are responsible for providing defence from flooding are known as operating authorities. There are four types of operating authority, with differing powers and responsibilities.

- The first operating authority is the **Environment Agency**, which is responsible for sea defences and works on main rivers.
- The second group of operating authorities are the **Internal Drainage Boards** who look after ordinary watercourses in areas known as Internal Drainage Districts.
- The third group of operating authorities is made up of the **Local Authorities** who look after those ordinary watercourses that are not in an Internal Drainage District (it must be noted that the different tiers of Local Authorities; Counties, Metropolitan, Unitary and Districts have differing flood defence responsibilities).
- The final group of operating authorities are the **Maritime Local Authorities** who look after coast protection (prevention of coastal erosion) and may also undertake sea defence works.

The powers given to the operating authorities to carry out works are all permissive, which means they can choose either to carry out works or not at their discretion. No operating authority can be compelled to use their permissive powers.

The Environment Agency is funded, for flood defence purposes, by a levy on Local Authorities and by grant towards capital works from the Ministry of Agriculture, Fisheries and Food (MAFF) in England, and from the National Assembly for Wales.

Local Authorities fund their flood defence activities through the Council Tax and from central government through the Standard Spending Assessment mechanism.

Internal Drainage Boards fund their activities through a direct charge on agricultural land occupiers within their Internal Drainage District and from special levies on Local Authorities.

MAFF in England and the National Assembly for Wales have policy responsibility for flood and coastal defence, setting policy aims, objectives and targets for the operating authorities, providing guidance, funding a Research and Development programme and grant aiding eligible works.

Introduction

Section 6(4) of the Environment Act 1995 states:

"...the (Environment) Agency shall in relation to England and Wales exercise a general supervision over all matters relating to flood defence."

In a statement to Parliament on 20 October 1998 the MAFF Minister, Elliot Morley, highlighted a commitment by Government, following its response to an Agriculture Select Committee Inquiry, for the Agency to develop its current supervisory responsibilities for all flood defence matters including the adequacy of defences owned by others.

In May 1999 the Government announced interim high level targets for flood and coastal defence to secure the delivery of its flood and coastal defence aims and objectives; a more comprehensive set of targets was announced in November 1999. The supervisory duty is included within the framework of the high level targets.

As the principal operating authority, and with its general flood defence supervisory responsibilities the Environment Agency has a key role in monitoring and reporting achievement by all operating authorities.

A consultation exercise has been carried out which addressed how the Environment Agency's supervisory duty in England and Wales should be undertaken.

The high level targets set by government deal with the three key objectives to achieve the policy aims:-

- **To encourage the use of adequate and cost effective flood warning systems.**
- **To encourage the provision of adequate, economically, technically and environmentally sound and sustainable flood and coastal defence measures.**
- **To discourage inappropriate development in areas at risk from flooding and coastal erosion.**

The high level targets set by Government are intended to secure the delivery of these objectives. The Agency's elaboration of its supervisory duty addresses the actions required to fulfil those targets and spells out clear ownership by each operating authority for its part of each action.

The Agency's Supervisory Duty

The elaboration of the Supervisory Duty is intended to be consistent with the legislative framework that currently exists. The Environment Act 1995 sets the scope of the supervisory duty as very wide ranging, namely "all matters relating to flood defence" For simplicity in detailing the Agency's supervisory duty, the flood defence service has been divided up into eight sections: -

- Section 1 Condition of flood and coastal defences and critical ordinary watercourses
 - 1.a Flood Defences
 - 1.b Critical Ordinary Watercourses
 - 1.c Coastal Defences
 - 1.d National Flood and Coastal Defence Asset Database
- Section 2 Assessment of flood risk
- Section 3 Achievement of high level targets
- Section 4 Emergency response to flooding incidents
- Section 5 Awareness of flood risk in the community
- Section 6 Future development proposals that have potential impact on flood risk
- Section 7 Regulation of others
- Section 8 Application of conservation duty and environmental impact

Taking each Section in turn the Agency's supervisory duty will be:-

Section 1 Condition of flood and coastal defence service and critical ordinary watercourses

Section 1.a - Flood Defences

The overall standard of flood defence provided in a river catchment depends on the condition of all its parts. In order to be able to understand how a flood defence system is working it is important to look at the whole picture not just parts of it.

The Agency will be responsible for inspecting defences on main river whilst Local Authorities and Internal Drainage Boards will be responsible for inspecting their own defences on ordinary watercourses. The information on the condition of all defences will then be passed to the Agency who will keep it on a national database (see section 1d). The Agency and local authority/IDB will agree arrangements for identifying and inspecting third party defences.

Section 1.b - Critical Ordinary Watercourses

Section 1a deals with flood defences on Main Rivers and Ordinary Watercourses. This section is intended to provide a means for identifying "critical" ordinary watercourses and for assessing their condition, including flow capacities.

The Agency, in partnership with the Local Authorities and Internal Drainage Boards will agree methods of identifying those ordinary watercourses that are critical to the area through which they pass. The Local Authorities and Internal Drainage Boards using that definition will then identify and inspect the condition of those critical ordinary watercourses. The frequency of inspection should be risk based taking account of factors such as the status and nature of the critical ordinary watercourse.

Section 1c - Coastal Defences

This section focuses on the coast and deals with coastal defences and their condition in a similar way to the defences on inland watercourses.

The Agency will inspect the condition of sea and coastal defences that protect low lying land from flooding from the sea. The Maritime Local Authorities will be responsible for inspecting the condition of:

- Coast protection works that solely protect the land from erosion or encroachment; and
- Coastal defences that are in their ownership and that as well as protecting the land from erosion, provide a degree of protection from flooding.

The Agency will receive information on the condition of all coastal defences (both sea defences and coast protection works) and maintain this information on the National Flood and Coastal Defence Asset Database (see Section 1d).

Section 1.d - National Flood and Coastal Defence Asset Database

In order to store and make easily available information collected on the condition of defences and watercourses the Agency will develop and maintain a national database. Amongst its other uses the Agency will use the database to provide reports as required, including to Ministers and for publication in the public arena.

Section 2 - Assessment of Flood Risk

As well as being aware of the condition of defences it is important to know the risk associated with them, so the Agency will assess the flood risk associated with all sea and main river defences. In partnership with Local Authorities and Internal Drainage Boards the Agency will agree methods of assessing the standards of defence for ordinary watercourses and other coastal defences. These methods will then be used, with the assistance of the Local Authorities and Internal Drainage Boards, to assess the flood risk associated with all defences on critical ordinary watercourses and other coastal defences.

Where the assessed risk gives cause for concern the Agency, with assistance from Local Authorities and Internal Drainage Boards, will bring the concern to the owners notice and seek to agree remedial actions.

In addition the Agency will investigate the causes of serious or repeated flood events on ordinary watercourses and identify potential solutions

Section 3 - Achievement of MAFF High Level Targets

The Agency will receive information from Agency Regions, Internal Drainage Boards and Local Authorities on achievement of high level targets and provide Ministers with an annual report.

Section 4 - Emergency Response to flooding incidents

The Agency in partnership with Local Authorities and Internal Drainage Boards will endeavour to provide flood warnings to those that need them efficiently and effectively and to ensure that efficient and effective emergency planning, operational and emergency response, incident management and aftercare is undertaken.

The Agency will lead in partnership with Local Authorities, Internal Drainage Boards, emergency services and others in producing and running a programme of flood emergency exercises at national, regional and local levels.

Section 5 - Awareness of flood risk in the community

The Agency in partnership with Local Authorities and Internal Drainage Boards will agree and implement methods for raising and maintaining appropriate levels of public awareness within the community of flood risk.

Section 6 - Future development proposals that have potential impact on flood risk

It is important that future housing or other building developments are not put in areas at risk of flooding or in such a place that they make an existing problem worse. For that reason the Agency will keep its guidance to local planning authorities under review and update as needed. Additionally the Agency in partnership with Local Authorities will report to MAFF, the National Assembly for Wales and the Department of the Environment, Transport and the Regions on the success of the Agency's responses to development plans and planning applications, inter alia reporting where decisions have been against the Agency's advice and on the inclusion or not of adequate flood risk statements in Local Authority Development Plans.

Section 7 - Regulation of others

The Agency will produce annual statistics on applications for consent to carry out works on main rivers and ordinary watercourses and receive annual reports from Local Authorities and Internal Drainage Boards on the use of their statutory powers on ordinary watercourses.

Section 8 - Application of conservation and environmental impact

The Agency will prepare Water Level Management Plans for those main rivers where one is needed, except where another operating authority has accepted responsibility, and give advice to help Local Authorities and Internal Drainage Boards prepare Water Level Management Plans for other sites where one is required.

The Agency will also report to MAFF and the National Assembly for Wales on the preparation and implementation of Water Level Management Plans. The Agency will also report to MAFF and the National Assembly for Wales on the impact of flood and coastal defence operations on habitats covered by national Biodiversity Action Plans.

Implementation

In considering its supervisory duty it has been the Agency's intention to achieve supervision by consent and then to exercise its supervisory duty in partnership with the other operating authorities. In view of that, the Agency will set up a forum with the Association of Drainage Authorities to discuss the high level targets and the manner of implementation in partnership of the Agency's supervisory duty. The Agency will also discuss the need for a similar forum with the Local Government Association.

It is intended that agreed guidance for IDBs and local authorities will be produced by April 2000, to complement the MAFF targets.

NEW FOREST DISTRICT COUNCIL

POLICY STATEMENT ON FLOOD AND COASTAL DEFENCE - FEBRUARY 2001

1. INTRODUCTION

Purpose

- 1.1 This policy statement has been prepared by New Forest District Council (NFDC) to provide a public statement of the Council's approach to flood and coastal defence in its area.

Background

- 1.2 The Ministry of Agriculture, Fisheries and Food has policy responsibility for flood and coastal defence in England. However, delivery is the responsibility of a number of flood and coastal defence "operating authorities" ie the Environment Agency, local authorities and internal drainage boards. Responsibilities differ according to the type of operating authority and NFDC's responsibilities are set out in paragraphs 3.1 and 3.2 below.
- 1.3 The Government has published a policy aim and three objectives for flood and coastal defence ¹. To ensure a more certain delivery of the aim and objectives by the individual operating authorities the Government has published a series of high level targets ². The first target requires each operating authority to publish a policy statement setting out their plans for delivering the Government's policy aim and objectives in their area. This will include their assessment of flooding and coastal erosion risk in their area, and the plans for reducing or managing that risk.
- 1.4 This policy statement fulfils that requirement. Copies are also available from the Council's offices at Appletree Court, Lyndhurst and Town Hall, Lymington and on ForestNet and the Council's web site. We are also providing a copy to:
- the Ministry of Agriculture, Fisheries and Food;
 - the Department of the Environment, Transport and the Regions; and
 - the Environment Agency.

2. HOW THE COUNCIL WILL DELIVER THE GOVERNMENT'S POLICY AIM AND OBJECTIVES

- 2.1 NFDC acknowledges and supports the Government's aim and objectives for flood and coastal defence (as set out below). Our policy and approach will be consistent with them, as follows:

Government's policy aim: To reduce the risk to people and the developed and natural environment from flooding and coastal erosion by encouraging the provision of technically, environmentally and economically sound and sustainable defence measures.

Section 3 below sets out our plans for reducing or managing the risk of flooding and coastal erosion risk in the Council's area.

Objective (a): To encourage the provision of adequate and cost effective flood warning systems.

Provision of flood warning systems is the responsibility of the Environment Agency. However, NFDC recognises its related and important role in emergency planning and response. We will therefore:

- ensure that our emergency response plans include appropriate arrangements for flooding emergencies and that such plans are reviewed, in consultation with the Environment Agency, at least every two years;
- maintain an awareness of the Environment Agency's flood warning dissemination plan for our area and contribute to its implementation where relevant to our emergency response plans; and
- play an agreed role in any flood warning emergency exercises organised by the Environment Agency covering our area.

Objective (b): To encourage the provision of adequate, economically, technically and environmentally sound and sustainable flood and coastal defence measures.

NFDC will:

- provide an adequate, economically, technically and environmentally sound approach to providing the flood and coastal defence service. We will:

adopt a strategic approach to provision of flood and coastal defences, particularly by assessing any potentially wider effects of proposed defences. To this end we will continue to play a full role in Shoreline Management Plans, and Local Environment Agency Plans, for our area;

aim to provide sustainable flood and coastal defences which provide social and/or economic benefits to people whilst taking account of natural processes and which avoid committing future generations to inappropriate defence options;

ensure work is carried out in accordance with best practice and to deliver best value for money including (a) keeping up-to-date with policy and technical developments in flood and coastal defence, in particular by reference to MAFF guidance, other Government publications and relevant technical manuals; (b) consulting the Environment Agency on flood defence options to ensure that best practice is adopted and shared; and (c) using appropriately qualified experts to advise on analysis and design of works or programmes of management;

consider alternative approaches to funding, such as Public Private Partnerships;

where appropriate seek contributions from developers or other direct beneficiaries of works, in accordance with Planning Policy Guidance Note 25;

ensure that appropriate maintenance regimes are in place for flood and coastal defences for which the Council takes responsibility;

when specific flooding problems are identified, inform the relevant landowners of their responsibilities (see paragraph 3.1 below);

make publicly available the Council's expenditure plans for flood and coastal defence maintenance and capital works. Information is included in the minutes of the Policy and Resources Committee and the relevant budget books, which are available to the public at the Town Hall, Lymington and Appletree Court, Lyndhurst. Minutes of the Policy and Resources Committee are also made available at public libraries within the district and on the Council's web site.

- play a positive role in fulfilling our statutory and other responsibilities for furthering nature conservation, including achievement of the Government's environmental obligations and targets. In particular we will:

fulfil our responsibilities in relation to nationally and internationally important conservation areas, under the Wildlife and Countryside Act 1981 and as a competent authority under the terms of the Conservation (Natural Habitats &c.) Regulations 1994 [*NB this applies equally to EA, local authorities and IDBs*];

co-operate with English Nature and the Environment Agency in completing and implementing Coastal Habitat Management Plans (CHaMPs) covering our area, drawing on English Nature/Environment Agency guidance for plan production;

when carrying out flood and coastal defence works, seek opportunities for environmental enhancement, and aim to avoid damage to environmental interest and to ensure no net loss to habitats covered by Biodiversity Action Plans. We will monitor all losses and gains of such habitats as a result of these operations and report on them annually to the Environment Agency; and

ensure that, for those Water Level Management Plans where we are the lead operating authority, we work in partnership with English Nature to complete, implement and review Plans in accordance with MAFF guidance on plan completion and the timetables set out in MAFF High Level Targets.

Objective (c): To discourage inappropriate development in areas at risk from flooding and coastal erosion.

As the local planning authority for our area, NFDC will take account of flooding and coastal erosion risks in all matters relating to development control, including local plans and individual planning applications, in accordance with Planning Policy Guidance Notes 20 and 25.

3. OUR ASSESSMENT OF THE RISK OF FLOODING AND COASTAL EROSION IN OUR AREA AND WHAT WE WILL DO TO REDUCE OR MANAGE THAT RISK

Flood and coastal defence responsibilities

- 3.1 Apart from certain obligations to protect internationally important habitats under the EU Habitats Directive, all flood and coastal defence works are undertaken under permissive powers. This means that operating authorities, such as NFDC, are not obliged to carry out flood and coastal defence works. It is also important to note that the Council does not normally accept responsibility for maintenance of flood defences on private land; this is the responsibility of the landowner.
- 3.2 NFDC is the relevant operating authority for:
- flood defences on ordinary watercourses which are not within the area of an internal drainage board; and
 - coast protection (ie measures against coastal erosion) on all frontages in the authority's area.
- 3.3 The flood and coastal defences that are owned or managed by the Council are detailed in our return for the database which is maintained by the Environment Agency.
- 3.4 The Environment Agency is the relevant operating authority for flood defences on designated main rivers and sea defences (ie measures against coastal flooding). Culverts under roads are generally the responsibility of the relevant Highways Authority (County Council or Highways Agency).

Assessment of flood risk

- 3.5 The whole of the district council area is drained by an extensive network of ordinary watercourses for which NFDC is the relevant operating authority. The watercourses in the Council's area that are designated as main river and thus the responsibility of the Environment Agency are shown on the Agency's Indicative Floodplain Maps, copies of which are kept on the Council's Geographic Information System. There is no internal drainage board operating in the Council's area.
- 3.6 We have agreed with the Environment Agency that within the Council's area there are 19.3km of "critical ordinary watercourses" (ie watercourses which are not classified as "main river" but which the Council has agreed with the Environment Agency to be critical because they have the potential to put at risk from flooding large numbers of people and property).
- # The watercourses concerned are listed in Appendix B.
- 3.7 The district council has a large geographic area covering some 290 square miles. Surface water run-off over this area drains to an extensive network of main rivers and ordinary watercourses. The ordinary watercourses range from substantial streams to minor ditches and culverts.

The ordinary watercourse network is so extensive it is impractical to carry out a risk assessment for individual ordinary watercourses.

Flooding of property occurs across the district and in many cases this is a result of blockages or lack of capacity in ordinary watercourses. Greater numbers of properties are likely to be at risk of flooding when substantial streams pass through urban areas. These streams have now been categorised as critical ordinary watercourses under the MAFF High Level Targets.

The Council has been providing an emergency response to flooding for many years and has a database of flooding incidents which includes details of property flooding dating back over 10 years. There is no record of loss of human life as a result of flooding from ordinary watercourses within the district council area.

On balance it is considered that there are minimal risks to human life created by flood risks from ordinary watercourses within the district. The only area of concern being the many fords used for road crossings throughout the area. These can be extremely dangerous if drivers try to use them when the watercourses are in full flood.

It is intended to carry out a more detailed risk assessment on the critical ordinary watercourses during 2002/03. At the same time as this assessment an investigation will be carried out into the areas known to flood where traffic could be in danger at fords and this information provided to the highway authority for consideration.

Obviously minimal risk to life from flooding from ordinary watercourses will be reduced further if the Environment Agency extend their warning service to cover critical ordinary watercourses.

Action to reduce or manage flood risks

- 3.8 The main means by which flood risks will be managed is through the Environment Agency's local flood warning plans for Hampshire and Dorset which became effective on 12 September 2000. These make arrangements for warnings to be provided within this Council's area, including individual warnings to high risk properties as follows:

RIVERS AND STREAMS

Flood Watch Only Areas

New Forest Catchment
River Test Catchment
Western Hampshire (04524)

Flood Warning Areas

1A2 - Lower Test Valley
1A3 - River Blackwater and River Cadnam
ID1 - Upper Lymington River (including the Weir Brockenhurst)
ID2 - Lower Lymington River
ID3 - Danes Stream
Mid Hampshire Avon - Salisbury to Ringwood (including Fordingbridge) (045241)
Lower Hampshire Avon - at Ringwood (045241)
Lower Hampshire Avon - Ringwood to Christchurch (045241)

COASTAL

Flood Warning Areas

13A - Milford-on-Sea to Calshot (including Keyhaven, Lymington & Beaulieu)

13B - Southampton Water (including Hythe, Marchwood & Totton)

New Forest DC has an Operational Flood Plan dated July 1998 and included plans for responding to major flooding in its emergency planning procedures and has arrangements for cascading warnings received from the Environment Agency to relevant Council services.

- 3.9 The Council has a programme in place to inspect the state of:
- flood defences that it has identified (whether or not owned by the Council) on all ordinary watercourses; and
 - all critical ordinary watercourses that have currently been identified (excluding culverted sections).
- 3.10 The Council will ensure that regular maintenance is carried out on the flood defences and critical ordinary watercourses which we own, or for which we accept responsibility, so that they operate at optimum efficiency. Where the responsibility for maintenance rests with a landowner, we will aim to secure co-operation in ensuring appropriate maintenance takes place, drawing on enforcement powers if necessary.
- 3.11 The Council has approved a Land Drainage Strategy which was adopted in 1990 and revised in 1993.
- 3.12 The Council will consider carrying out major land drainage and flood defence works on ordinary watercourses where schemes receive MAFF approval and qualify for grant aid. The Council has a major capital works programme which is reviewed annually.
- 3.13 By following Government guidance in Planning Policy Guidance Note 25 on development in flood risk areas, the Council, acting as a local planning authority, will ensure that risks are further minimised.

The Council has agreed with the Environment Agency, policies to strictly limit development in areas at risk of flooding and defined on the Local Plan Proposals Maps.

Policies for surface water drainage seek to avoid development which would cause or exacerbate damaging flooding or interfere with natural flows as advised by the Environment Agency.

Policies will also include measures to ensure the use of sustainable urban drainage systems to control surface water run off.

Within the areas at risk of flooding development proposals are subject to consultation with the Environment Agency.

Assessment of coastal erosion risks

- 3.14 The 1998 Western Solent and Southampton Water - and the 1999 Poole and Christchurch Bays - Shoreline Management Plans identify sites within the management of the Council. Of the 18km of shoreline owned or leased by the Council, 10km is defended against erosion. The remaining frontage consists of natural cliff and saltmarsh. The total coastal frontage within the bounds of the Council administration is 81km.
- 3.15 Risks of erosion of the defended frontage at Barton are high and there is an ongoing risk of local instability in the cliffs behind the rock revetment. Hurst Spit is vulnerable to severe storm conditions and is dependent upon regular maintenance to maintain its integrity. Risks of erosion of the remainder of the defended coast are moderate, and regular maintenance is required. Beach volumes are declining on virtually all beaches on an ongoing basis. Elsewhere on the undefended coast of Christchurch Bay, erosion rates average 1-3 metres per year. Saltmarsh erosion rates exceed 6m per year within parts of the Western Solent (see Shoreline Management Plans for details).

Action to reduce or manage coastal erosion risks

- 3.16 The Council operates a programme of routine maintenance of structures within the protected frontage of its ownership. This consists of timber groyne and revetments, seawall and rock structure maintenance. Maintenance is carried out in conjunction with beach recycling, and occasional recharge. Structures and beaches elsewhere within the district boundaries are monitored, but no maintenance is undertaken of these. Management of Hurst Spit is carried out under the 1996 Beach Management Plan, agreed with MAFF and supported with grant aid. Cliff drainage systems at Barton-on-Sea are currently maintained, but these defences need upgrading. A strategic approach to management of Christchurch Bay and the Western Solent will be developed further, with the aid of Coastal Defence Strategy plans, subject to MAFF grant aid. Future capital work programmes will be developed from these plans. The management regime takes into account the most recent predictions of the impact of climate change as set out within the Shoreline Management Plans. Warning notices are maintained in areas of public access on both cliff top and beach, on the undefended length.
- 3.17 The Council does not permit development in areas at risk from coastal land slips or erosion which are defined on the Local Plans Proposals maps. This is in accordance with Government advice in PPG14 on unstable land and PPG20 on coastal planning.

Within the areas at risk of coastal land slips or erosion development proposals are subject to consultation with the Council's Coastal Group.

4. PARTNERSHIPS AND REVIEW OF THIS POLICY STATEMENT

- 4.1 The Council has set out its policy and approach to flood and coastal defence. We recognise the need to work in partnership with central Government and other operating authorities. Our local population also has an important part to play, in recognising the vital importance of watercourses in controlling flood risk and the need to avoid blockages, whether by dumping rubbish or obstructing flows in other ways. We ask members of the public to let us know of any problems which might increase the risk of flooding or coastal erosion.

- 4.2 NFDC intend to review this policy statement in three years' time, when it will be revised and reissued as necessary. Meanwhile, the Council welcomes any comments on the approach and policies set out in this statement.

References

¹ Strategy for Flood and Coastal Defence in England and Wales MAFF and Welsh Office, September 1993

² High Level Targets for Flood and Coastal Defence Operating Authorities and Elaboration of the Environment Agency's Flood Defence Supervisory Duty MAFF, November 1999

Other references from the policy statement, for example to the relevant Shoreline Management Plan.

CM/NAS (N_P_S/REPORTS/HLT_PS.DOC)
(taken from MASTERS/CARL/MAFFHLT.DOC)

App_4

NAME OF WATERCOURSE	THE LOCATION OF EACH END OF THE WATERCOURSE	LENGTH INCLUDING CULVERTS ETC(m)
Ashley Streams, Ashley, New Milton	Great Ballard Lake balancing pond to entry to Ashley Road culvert.	1117.00
Ashley Streams – Other leg	Pipe to rear of 22 Oakwood Ave to junction of other watercourse just upstream of railway.	201.00
Lyndhurst- The Custards	Between 27/29 Romsey Road and rear of Wellands Lodge, Wellands Road, Lyndhurst.	307.00
Ashurst, Totton	Lyndhurst Road to 48 Woodlands Road.	1013.00
Calmore, Totton. 1	Northern corner of Hazel Farm Estate- junction immediately east of Q- to manhole A on plan near Stonechat Drive.	534.00
Calmore, Totton. 2	Point Q to point T.	392.00
Calmore, Totton. 3	Point T to point P.	135.00
Calmore, Totton. 4	Point T to manhole in Stonechat Drive.	229.00
Calmore, Totton. 5	Eastern side of Aikman Lane, along Stonechat Drive to manhole A.	246.00
Becton Bunny, Barton on Sea	South of Milton Mead culvert to end of concrete lining downstream of Willow Walk.	2047.00
Hythe centre watercourse	All pipework. From between Fairway Road and Dale Road to pumping station on Hythe Quay is possible route.	1137.00
Jacob's Gutter Lane, Eling, Totton	Upstream boundary 19 Moonscross Avenue to outlet into Jacob's Gutter.	777.00
Hythe south	Rear of Valley Lodge, Beaulieu Road to footbridge with triple pipes near Tates Road.	1476.00
Blackfield	From pipe just downstream of boundary between Wilverley Place and The Fowey to outfall downstream of Valley Close.	255.00

NAME OF WATERCOURSE	THE LOCATION OF EACH END OF THE WATERCOURSE	LENGTH INCLUDING CULVERTS ETC(m)
Marchwood- Cracknore Lane watercourse	Outfall of culvert under Hythe Road to footbridge between Autumn Road and Evergreen Close.	1098.00
Marchwood- Tavells Lane	Manhole near corner of 24 Poplar Drive to outfall downstream of railway near 17 Kestrel Drive.	316.00
Hythe north	Front fence of 89 Malwood Road West to outfall into Southampton Water alongside Hotspur House.	1234.00
Lymington	Upstream of Alexandra Road culvert to Normandy Way upstream of road culvert.	2703.00
Clockhouse Stream, Bransgore	Electricity sub station between Bransgore Gardens and Stibbs Way to foul water pumping station adjacent to Wiltshire Gardens.	1326.00
Ringwood Town Drain	From Bickerley Mill Stream to downstream side of Bickerley Road.	750.00
Sweatsford Water, Fordingbridge	Footbridge between Arch Farm Industrial Estate and Beacon Court to downstream side of Shaftesbury Street.	1197.00
Sway watercourse	Downstream side of Middle Road to boundary of Durnslea and Church Lane.	803.00
TOTAL LENGTH		19293.00

CM/NAS (N_P_S/REPORTS/HLT_PS.DOC)
App_4

CONSULTANCY SERVICES - ENGINEERING GROUP**PRACTICE NOTE LD6****ENFORCEMENT PROCEDURES FOR BLOCKED ORDINARY WATERCOURSES AND UNCONSENTED CULVERTS****1.0 INTRODUCTION**

1.1 There are in general two types of obstruction to flow in an ordinary watercourse. These are:-

- (i) Obstructions caused by natural processes e.g. silt and vegetation etc.
- (ii) Obstructions constructed by riparian landowners e.g. dam, weir and culvert etc.

1.2 A riparian landowner is under no common law duty to clear a watercourse which becomes silted or obstructed through natural causes.

Under statute law, however, a drainage authority may require and enforce riparian owners to carry out such works under the LDA 1991 and the PHA 1936.

1.3 S.23 LDA 1991 requires riparian landowners to obtain the consent of the drainage authority before the construction of, or alteration to, any mill, dam, weir, or similar obstruction or culvert in an ordinary watercourse. However, It is necessary for a proposed culvert to be 'likely to affect the flow' before the requirement for consent will apply.

1.4 A riparian owner must not only exercise due care in land drainage matters, but must also not cause or perpetuate a nuisance.

1.5 There is a general duty upon both land drainage bodies and riparian owners not to take action which would have the effect of exacerbating damage which would have been suffered if no action was taken.

2.0 INVESTIGATIONS PRIOR TO ENFORCEMENT ACTION

2.1 On receipt of a complaint or reported flooding incident, the matter must be fully investigated before a riparian owner is asked to carry out works or enforcement action is taken. However, where property is at risk of being flooded as a result of the problem, immediate action should be taken.

2.2 Where a complaint about the condition of a watercourse is made, it must be in writing and include full details of the problem with specific dates of flooding events and photographs if available.

- 2.3 If the complaint relates to a watercourse on a neighbouring property, the complainant should, in the first instance, be informed that it is a civil matter between them and their neighbour. If they have not already done so they should speak to their neighbour and then write to them if there is no action. Give the complainant an information sheet which outlines land drainage responsibilities. If there is still no action and the Council is requested to use their powers the complainant must provide copies of the letter sent to their neighbour and any reply.
- 2.4 If the Council decides to use the powers available to it and enforcement action is eventually considered necessary, it is essential that information on ownership is obtained. Checks should be made as appropriate on:
- (i) existing sewer records
 - (ii) old sewer records
 - (iii) highway drainage records
 - (iv) building control/planning records
 - (v) property deeds (when made available)
- 2.5 It may be necessary to get the Council's Legal Services to serve a "Requisition for Information Notice" on property owners or make a Land Registry search.
- 2.6 A check must be made to establish if the watercourse with which there is a problem is routed through a conservation area or SSSI. It is essential to consult with English Nature before taking any action in relation to such a watercourse and inform the riparian owner that they must consult English Nature before carrying out any works themselves.
- 2.7 If trees are causing an obstruction a check must be made with the Planning Department on any Tree Preservations Orders in force. This must be taken into consideration when advising a riparian owner on the removal of obstructions or carrying out works as part of enforcement action.
- 2.8 Problems involving pipelines found to be private surface water sewers (constructed by a developer to take surface water from buildings and/or highways on a development site) may need to be referred to the Council's Environmental Health Section for action under the Public Health Act.
- 2.9 Problems relating to ditches and culverts at the side of the road or culverts crossing the highway which are causing flooding of the highway should be referred to the Highway Authority. (NFDC Agency staff or to the County Council).
- 2.10 Problems relating to unconsented structures, including culverts, should be referred to the Environment Agency (Agency) in the first instance.

2.11 Enforcement action may not be possible under the LDA 1991 where:-

- (i) a watercourse has been widened to provide storage and silt and vegetation have built up in storage areas, but the flow of water in the main channel is not impeded. (Action may be possible under the PHA 1936 if it causes a nuisance or gives rise to conditions prejudicial to health).
- (ii) the pipes in a culverted watercourse are considered to be too small, particularly if they have been in for some years and were considered adequate at the time. Where the culvert has not been consented, action may be possible, but there must be definite evidence of a problem not related to development which has taken place upstream. Note: Culverts only need to be of sufficient size and depth to accommodate the normal flows from a catchment and not from very extreme events which infrequently cause flooding. (This may not now be the case as the Court of Appeal judgement in the case of Bybrook Barn Garden Centre Ltd and Others v Kent County Council held that the highway authority was liable for flooding caused by an undersized culvert as described above. This may go to the House of Lords as it has significant implications for the highway authority and the other owners of culverts).
- (iii) culverts are in poor condition even when in danger of failure. Only after a collapse which causes an obstruction to flow can enforcement action be taken. (Action may be possible prior to a collapse under S.264 PHA 1936).

3.0 ENFORCEMENT PROCEDURE

3.1 On completion of investigations and it being decided that the Council will use its powers, the following steps should be taken before a formal notice is served:-

- (i) An informal letter should be sent to the riparian owner briefly explaining the problem and the work which needs to be done. If an engineer has not already visited or talked to the riparian owner, it should be suggested that an engineer will be pleased to call to discuss the matter. An Information Sheet explaining a riparian owner's land drainage responsibilities and the Council's powers under the Land Drainage Act should be attached. A reasonable period must be given for the work to be completed depending on the severity of the problem and the risk of flooding of property.
- (ii) An engineer must visit the site at the end of the specified period to check that the work has been carried out. If there has been no action, a formal letter should be sent informing the riparian owner that the matter is being referred to the Council's Legal Services, and if the work is not completed within a further four weeks they will commence enforcement proceedings.

3.2 Under S.26 LDA 1991 the Agency must be informed of any action to be taken under S.25 LDA 1991.

3.3 The formal notice should be served by Legal Services as a last resort and only after the above investigations and procedures have been carried out. The necessary evidence must be collected before the notice is served to ensure that there are no problems if the riparian owner appeals to the Magistrates' Court.

3.4 If the work is not carried and the recipient does not appeal within 21 days from the date on which the notice is served on him, the Council may carry out the work and recover from him the expenses reasonably incurred.

4.0 LAND DRAINAGE ACTION REGISTER

4.1 Full details of the obstruction and the actions being taken must be recorded on the Land Drainage Action Register. This must be updated as actions are carried out.

C MICHALSKI
PN-LD6 (Last amended June 2001)

App_5

NEW FOREST DISTRICT COUNCIL

INFORMATION SHEET LD6

LAND DRAINAGE - OBSTRUCTED WATERCOURSES

1.0 INTRODUCTION

- 1.1 This Information Sheet has been prepared to give guidance to owners of land on which there is an ordinary watercourse or where there is one located adjacent to the boundary of their land.
- 1.2 The information particularly relates to a landowner's "riparian" responsibilities in respect of ordinary watercourses, and a drainage authority's powers, where there is an obstruction to flow and there is a risk of flooding or flooding has occurred.

2.0 DEFINITIONS

- 2.1 **RIPARIAN OWNER** - The owner of land on the banks or under the bed of a natural watercourse.
- 2.2 **WATERCOURSE** - A river, stream, ditch, drain, culvert, dyke, sluice, sewer and passage through which water flows. (Excluding public sewers).
- 2.3 **ORDINARY WATERCOURSE** - A watercourse which is not designated a main river.

3.0 RIPARIAN OWNER

- 3.1 You are a riparian owner if you have an open or piped watercourse located:-

- **directly on your land**
- **directly adjoining the boundary of your land**

You are likely to be a riparian owner if you have an open or piped watercourse located:

- **directly outside of your property and adjacent to the road**

- 3.2 Where you are the riparian owner of a watercourse it is for you to:-

- **maintain the watercourse and any associated structures**
- **keep the watercourse and any associated structures free of obstructions**

- 3.3 As a riparian owner you must not only exercise due care in respect of your land drainage rights and duties but must also not cause or perpetuate a nuisance.

- 3.4 Your failure to maintain a watercourse and keep it free of obstruction may result in:

- **a drainage problem for your neighbours and other landowners**
- **severe surface water flooding and water possibly entering houses**
- **enforcement action being taken against you by the local authority**

3.5 Consent from the Environment Agency (Agency) and local authority is required before anyone can:

- **erect or alter any structure or culvert which is liable to obstruct the flow of a watercourse**

4.0 LAND DRAINAGE POWERS OF LOCAL AUTHORITIES

4.1 The Land Drainage Act 1991 confers powers on local authorities, which relate to flood prevention and maintaining flows in watercourses. These powers are permissive, giving local authorities discretion over their use.

4.2 Local authorities also have powers available to them under the Public Health Act 1936, which can be exercised when a land drainage problem creates a statutory nuisance or a situation which is prejudicial to health.

4.3 Problems relating to ditches and culverts at the side of the road, and which are causing flooding of the highway, are likely to be referred to the highway authority to pursue. The highway authority, which will be the County Council or District Council acting as their agent, has similar powers to require riparian owners to carry out works.

5.0 ENFORCEMENT ACTION

5.1 A local authority may decide to exercise the powers available to it if property owners affected by a badly maintained or obstructed watercourse have been unable to get a riparian owner to carry out the necessary works.

5.2 In the first instance the local authority will try to resolve the problem informally by explaining to the riparian owner their responsibilities and the work they need to carry out to the watercourse. If this approach is unsuccessful the local authority may:

- **require and enforce riparian owners to carry out such works using their powers under the Land Drainage Act 1991 or the Public Health Act 1936.**

5.3 A formal notice will be served by the Council's Legal Services if there is no action by the riparian owner to remedy the situation. The recipient of the notice will have the right of appeal to a Magistrates' Court.

5.4 If the work is not carried out and the recipient does not appeal within 21 days from the date on which the notice is served on him, the Council may carry out the work and recover from him the expenses reasonably incurred.

6.0 GENERAL NOTES

6.1 There is a general duty upon both land drainage bodies and riparian owners not to take action which would have the effect of exacerbating damage which would have been suffered if no action was taken.

6.2 A check must be made to establish if the watercourse with which there is a problem is routed through a conservation area or SSSI. It is essential for a riparian owner to consult with English Nature before carrying out any work in relation to such a watercourse.

- 6.3 If trees are causing an obstruction a check must be made with the Planning Department of the local authority to establish if there are any Tree Preservations Orders in force and the requirements of the Orders.
- 6.4 Local authorities have no powers in respect of watercourses which are designated main river. Powers relating to main river are conferred on the Agency.

C Michalski
IS-LD6 (Last amended June 2001)

App_5

CONSULTANCY SERVICES - ENGINEERING GROUP**PRACTICE NOTE LD5****CULVERTING OF NON-MAIN RIVER WATERCOURSES****1.0 INTRODUCTION**

- 1.1 Under Section 23 of the Land Drainage Act 1991 written consent is required from the Environment Agency (Agency) before an ordinary watercourse can be culverted.
- 1.2 Under Section 263 of the Public Health Act 1936 plans and sections must be submitted to and approved by the local authority before an ordinary watercourse can be culverted.
- 1.3 The Agency resists the culverting of watercourses on both hydraulic and environmental grounds. This policy should be followed by local authorities.
- 1.4 It must be noted that the Agency cannot unreasonably resist culverting and they will generally permit it for access purposes.
- 1.5 It is recommended that the following problems associated with piped and culverted watercourses should be brought to the attention of the applicant or his agent:
- (i) May be environmentally undesirable.
 - (ii) Cost of design and construction could be high.
 - (iii) Can constitute a safety hazard.
 - (iv) Blockages or collapses can be difficult and expensive to deal with.
 - (v) Culverts can easily become blocked with debris causing flooding of property.
 - (vi) Screens on inlets can rapidly become blocked with debris causing flooding of property.
 - (vii) Future maintenance costs likely to be high due to silt and tree roots.
 - (viii) The owner will be fully responsible for the culvert and its maintenance.
 - (ix) The owner could be responsible for flooding caused by problems with the culvert.
 - (x) The owner and the designer of the culvert will have responsibilities in relation to safety.

2.0 CONSENT PROCEDURE

- 2.1 To keep the procedure simple consent should be given by the Agency or the local authority but not by both.
- 2.2 All requests for culverting should be referred to the Agency in the first instance.
- 2.3 The Agency will either:
- (i) refuse consent; or
 - (ii) give consent under LDA 1991; or
 - (iii) refer to local authority for consideration.

- 2.4 The local authority will either:
- (i) refuse consent; or
 - (ii) give consent under PHA 1936; or
 - (iii) decide that consent is not necessary.
- 2.5 A local authority must not give consent for a culvert if the Agency have refused consent.
- 2.6 The following requirements in paragraphs 3.0, 4.0 and 5.0 relate only to this Council's consent procedure.

3.0 CONSULTATION

- 3.1 If the Agency is to give consent it should first consult with the local authority to establish if there is a history of flooding in the area.
- 3.2 Where there is a request to culvert a watercourse at the side of the highway, either the Agency or the local authority should consult with the highway authority regarding any history of highway flooding.

4.0 MINIMUM PIPE SIZE

- 4.1 The minimum pipe size is to be 600mm diameter.
- 4.2 The minimum pipe size under motorways, major roads or railway embankments to be 1050mm diameter.
- 4.3 The consideration in setting this minimum size is not capacity but the need to reduce the possibility of blockages.
- 4.4 The invert of the pipe is to be set at 150mm below existing bed level of the watercourse and the natural bed carried through the pipe.
- 4.5 A reduction in the minimum pipe size should only be permitted under exceptional circumstances e.g. in very shallow ditches or ditches without positive outfalls. In such cases the pipe should be kept as large as possible.
- 4.6 If the watercourse is to be bridged with a deck at least 300mm clear of the top of the banks a consent is not generally required. The Agency should be consulted for confirmation.

5.0 CONSTRUCTION DETAILS

- 5.1 An application to culvert a watercourse must include a location plan, layout and longitudinal section. Dimensions and existing and proposed levels must be shown on the drawings.
- 5.2 A specification for the works should not be given by the consenting authority. The specification and construction details must be provided by the applicant or applicant's agent.
- 5.3 The consenting authority may suggest a minimum specification, possibly using extracts from Sewers for Adoption but not quoting the document.

5.4 The use of screens on inlets and outlets of culverted watercourses should be avoided unless required on safety grounds. It is the responsibility of the applicant or the applicant's agent to establish if a screen is necessary on safety grounds and make arrangements for future maintenance.

6.0 ACCESS AND MAINTENANCE REQUIREMENTS

6.1 It should be recommended that access chambers be provided every 100 metres, at changes in direction and where culverts are extended.

6.2 A maintenance width of 6 metres, located centrally over the culvert, should be recommended. It should also be suggested that no building, structure or obstruction should be sited within it.

6.3 Suitable access for future maintenance should be provided to the maintenance strip, inspection chambers, pipe inlets and pipe outlets. Culverting should be resisted if access for future maintenance cannot be provided.

C Michalski
PN-LD5 (Last amended June 2001)

App_6

NEW FOREST DISTRICT COUNCIL

INFORMATION SHEET LD5

CULVERTING OF NON-MAIN RIVER WATERCOURSES

1.0 INTRODUCTION

- 1.1 Under Section 23 of the Land Drainage Act 1991 written consent is required from the Environment Agency (Agency) before an ordinary watercourse can be culverted.
- 1.2 Under Section 263 of the Public Health Act 1936 plans and sections must be submitted to and approved by the local authority before an ordinary watercourse can be culverted.
- 1.3 Both the Agency and the District Council resist the culverting of watercourses on both hydraulic and environmental grounds where a clear span bridge could be utilised or where excessive lengths of culverting are proposed over and above that required for access purposes.
- 1.4 The applicant should be aware of the following problems associated with piped and culverted watercourses:-
- (i) May be environmentally undesirable.
 - (ii) Cost of design and construction could be high.
 - (iii) Can constitute a safety hazard.
 - (iv) Blockages or collapses can be difficult and expensive to deal with.
 - (v) Culverts can easily become blocked with debris causing flooding of property.
 - (vi) Screens on inlets can rapidly become blocked with debris causing flooding of property.
 - (vii) Future maintenance costs likely to be high due to silt and tree roots.
 - (viii) The owner will be fully responsible for the culvert and its maintenance.
 - (ix) The owner could be responsible for flooding caused by problems with the culvert.
 - (x) The owner and the designer of the culvert will have responsibilities in relation to safety.

2.0 CONSENT PROCEDURE

- 2.1 Consent is required from the Agency or the District Council.
- 2.2 All requests for culverting should therefore be referred to the Agency in the first instance.
- 2.3 The Agency will either:
- (i) refuse consent; or
 - (ii) give consent under LDA 1991; or
 - (iii) refer to local authority for consideration.
- 2.4 The local authority will either:
- (i) refuse consent; or
 - (ii) give consent under PHA 1936; or
 - (iii) decide that consent is not necessary.

- 2.5 Application forms can be obtained from the relevant authority, and must be returned before a request for consent can be considered.
- 2.6 The following requirements in paragraphs 3.0, 4.0 and 5.0 relate only to this Council's consent procedure.

3.0 MINIMUM PIPE SIZE

- 3.1 The minimum pipe size is 600mm. Smaller diameter pipes are prone to blocking.
- 3.2 The minimum pipe size for culverts under motorways, major roads or railway embankments is 1050mm diameter.
- 3.3 The invert of the pipe is to be set at 150mm below existing bed level of the watercourse and the natural bed carried through the pipe.
- 3.4 A reduction in the minimum pipe size will only be permitted under exceptional circumstances e.g. in very shallow ditches or ditches without positive outfalls. In such cases the pipe must be kept as large as possible.
- 3.5 Hydraulic calculations may be required under certain circumstances.
- 3.6 A consent may not be required if the watercourse is to be bridged. However the deck must be at least 300mm clear of the top of the banks. The Agency must be consulted for confirmation.

4.0 CONSTRUCTION DETAILS

- 4.1 An application to culvert a watercourse must include a location plan, layout and longitudinal section. Dimensions and existing and proposed levels must be shown on the drawings.
- 4.2 A specification and construction details must be provided by the applicant or applicant's agent.
- 4.3 The use of screens on inlets and outlets of culverted watercourses should be avoided unless required on safety grounds. It is the responsibility of the applicant or the applicant's agent to establish if a screen is necessary on safety grounds. Screens should not be vertical or flush with the headwall. They should be constructed at an angle of 45 degrees, with bars at a minimum of 150mm apart and hinged at top or bottom. The angled screen should be set at a minimum of 450mm from the headwall with side and top bars as required. Adequate provision should be made for raking the screen.
- 4.4 Headwalls should be provided at each end of the culvert. An apron extending 600mm below firm bed level should also be provided.
- 4.5 On large diameter pipes a small berm may be required to assist in the movement of small animals at times of high flow.

5.0 ACCESS AND MAINTENANCE REQUIREMENTS

- 5.1 Access chambers should be provided every 100 metres, at changes in direction and where culverts are extended.
- 5.2 A maintenance width of 6 metres, located centrally over the culvert, should be provided. It is suggested that no building, structure or obstruction should be placed within it.
- 5.3 Suitable access for future maintenance should be provided to the maintenance strip, inspection chambers, pipe inlets and pipe outlets.

Further details can be obtained from:-

New Forest District Council:	Telephone 02380 285647
Environment Agency (Southern Region):	Telephone 01962 713267
Environment Agency (South Western Region):	Telephone 01258 456080

C Michalski IS-LD5 (Last amended June 2001)

App_6

CONSULTANCY SERVICES - ENGINEERING GROUP**PRACTICE NOTE LD4****LAND DRAINAGE AND FLOOD DEFENCE - DEVELOPMENT CONTROL****1.0 INTRODUCTION**

- 1.1 The planning consent procedure is a key stage in every development with land drainage implications. It is a vital controlling mechanism which will minimise future drainage problems consequent upon new development. However, obtaining planning permission does not avoid the need for developers to obtain other land drainage consents where these are required.
- 1.2 This practice note briefly covers the development control process as it may affect local authority land drainage engineers. It also includes advice on information which should be given to developers.

2.0 THE ENVIRONMENT AGENCY

- 2.1 The Environment Agency (Agency) is a statutory consultee on planning matters in respect of land drainage and flood defence. They will respond to the planning authority in line with their document "Policy and Practice for the Protection of Floodplains".
- 2.2 The Agency must be consulted on planning applications in respect of development involving the carrying out of works or operations in the bed of or on the banks of a river or stream or in the vicinity of sea defences. The Agency also requires the Planning Authority to consult it where new development is proposed in a flood risk area and provides indicative floodplain maps and survey details of specific flooding areas under Section 105 of the Water Resources Act 1991.
- 2.3 Planning Policy Guidance Note 25 (PPG 25) "Development and Flood Risk" explains how flood risk should be considered at all stages of the planning and development process in order to reduce future damage to property or loss of life. Planning decisions should recognise the importance of functional floodplains, where water flows or is held at times of flood, and avoid inappropriate development on undeveloped and undefended floodplain. Planning decisions should apply the precautionary principle to the issue of flood risk, using risk-based search sequences to avoid such risk where possible and managing it elsewhere.
- 2.4 There is also a Memorandum of Understanding, "Development and Flood Risk (1994)" which was drawn up between the NRA and bodies representative of local planning authorities in respect of development affecting the flood plain.
- 2.5 The Agency has only limited statutory powers in connection with the control of surface water drainage works. It is therefore essential for a close partnership to exist with the local planning authority.

3.0 LOCAL AUTHORITIES

- 3.1 When local authorities exercise the powers available to them under the Land Drainage Act 1991, they will generally employ a land drainage engineer to carry out the duties under this function. In carrying out these duties the land drainage engineer will find it of benefit to have an involvement in the planning process.
- 3.2 The local authority land drainage engineer will usually look at planning applications for development proposals that may have an effect on ordinary watercourses. Of interest will be proposals that include works in the bed of or on the banks of an ordinary watercourse, culverting of an ordinary watercourse, and/or will result in surface water discharges which will increase the flows in watercourses.
- 3.3 When looking at planning applications the land drainage engineer may also wish to bring to the attention of the planning authority any non-watercourse land drainage issues that they should take into consideration before granting planning permission. In such cases it should be made clear to the planning authority that the only controls for dealing with such issues are through the planning process.
- 3.4 The Council is not a formal consultee on drainage matters but the land drainage engineer should advise the planning authority on the most effective course of action for them to follow regarding drainage considerations. This may involve the planning authority in employing external consultants or alternatively requiring the developer's consultant to certify that a proper study or scheme has been completed or designed.
- 3.5 A local authority land drainage engineer may be aware of flooding problems relating to the land drainage system that are not known about by the Agency. It is therefore essential for the land drainage engineer to inform the Agency of these problems directly or request that they are brought to the Agency's attention by the planning authority.
- 3.6 Where a development proposal has significant land drainage implications it is essential for close liaison throughout the planning process between the local authority planning officers, local authority land drainage engineer and the Agency.

4.0 INFORMATION FOR DEVELOPERS

- 4.1 It is recommended that general information is provided to developers on two types of information sheet:
- A short form information sheet to be used for all small scale development which may have an effect on a watercourse. This will cover consents that are not covered by the planning process.
 - A more detailed information sheet for larger scale development covering all aspects of land drainage and flood defence.
- 4.2 # A model short form "Information for Developers" sheet is given in Appendix C.

4.3 The detailed “Information for Developers” sheet should cover the following:

- Development on flood plain or in flood risk areas.
- Effects of surface water discharges from new development on existing watercourses.
- Alterations to and culverting of watercourses.
- Development close to watercourses - Future access.
- Provision and maintenance of sustainable urban drainage systems.
- Development behind existing or proposed flood defences.

4.4 A model detailed “Information for Developers” is given in Information Sheet LD4.

4.5 Important points to note are:

FLOOD RISK AREAS

- The Agency policy relating to development on floodplain should be followed - This is to object to development on floodplain.
- This policy also covers floodplain on ordinary watercourses and in tidal areas.
- If flood levels and surge levels are known these should be given to the developer.
- Slab levels in flood risk areas must not be recommended to the developer.
- Where development is permitted on floodplain, ground levels must not be raised and the developer must compensate for loss of floodplain covered by building footprints.

DISCHARGE CONSENTS

- A formal consent is usually required from the Agency for a surface water discharge, which includes pollutants, to any watercourse.
- There is no formal consent procedure for surface water discharges to watercourses on capacity grounds. The control is through the planning process.
- Where development is proposed, and local authority engineers are aware of capacity problems in an ordinary watercourse, they must inform the planning authority and the Agency.
- Where it is considered that a catchment study is required before development can be permitted, this must be financed and organised by the developer.

ALTERATIONS AND CULVERTING

- The Agency will not usually permit culverting of an open watercourse unless it is for access purposes, for which a formal consent is required. This must be brought to the attention of the developer. See Guidance Note on culverting.

ACCESS AND FUTURE MAINTENANCE

- When development is proposed near to any watercourse or flood defence, it is essential that provision is made for access for future maintenance.
- There are specific Agency requirements in respect of main river and sea defences. For ordinary watercourses not covered by Bylaws, no structures or obstructions should be allowed within 3 metres of the banks of a watercourse. The developer should be required to cover this in property deeds.

SUSTAINABLE URBAN DRAINAGE SYSTEMS (SUDS)

- The Agency and this Council promotes the use of SUDS to enable surface water run-off from new development to be controlled as near to the source as possible. Developers must therefore be vigorously encouraged to use SUDS for the disposal of surface water run-off.
- Where a developer does use SUDS for surface water disposal, adequate provision must be made through the planning procedure for the future maintenance of such facilities.

FLOOD DEFENCES

- Developers must carry out an assessment of the life expectations of defences against the life expectations of the development proposals.
- Developers must make adequate provision for the future maintenance of flood defences. The Agency is reluctant to take on responsibility for these.

5.0 THE DEVELOPMENT CONTROL PROCESS

- 5.1 It is essential for local authority land drainage engineers to become involved in the development control process in order to influence the effect new development has on the land drainage system.
- 5.2 The use of planning conditions and advice to developers and the planning authority provides a vital controlling mechanism which will minimise future drainage problems.

C Michalski
PN-LD4 (Last amended June 2001)

App_7

NEW FOREST DISTRICT COUNCIL

CONSULTANCY SERVICES - ENGINEERING GROUP

INFORMATION SHEET LD4

LAND DRAINAGE AND FLOOD DEFENCE - GUIDANCE NOTES FOR DEVELOPERS

1.0 INTRODUCTION

- 1.1 The planning consent procedure is a key stage in every development with land drainage implications. It is a vital controlling mechanism which will minimise future drainage problems consequent upon new development. However, obtaining planning permission does not avoid the need for developers to obtain other land drainage consents where these are required.
- 1.2 This Information Sheet provides advice to developers on the land drainage and flood defence issues which they need to consider when planning any new development.

2.0 THE ENVIRONMENT AGENCY

- 2.1 The Environment Agency (Agency) is a statutory consultee on planning matters in respect of land drainage and flood defence. They will respond to the planning authority in line with their document "Policy and Practice for the Protection of Flood Plains".
- 2.2 The Agency must be consulted on planning applications in respect of development involving the carrying out of works or operations in the bed of or on the banks of a river or stream or in the vicinity of sea defences. The Agency also requires the planning authority to consult it where new development is proposed in a flood risk area and provides indicative floodplain maps and survey details of specific flooding areas under Section 105 of the Water Resources Act 1991.
- 2.3 Planning Policy Guidance Note 25 (PPG 25) "Development and Flood Risk" explains how flood risk should be considered at all stages of the planning and development process in order to reduce future damage to property or loss of life. Planning decisions should recognise the importance of functional floodplains, where water flows or is held at times of flood, and avoid inappropriate development on undeveloped and undefended floodplain. Planning decisions should apply the precautionary principle to the issue of flood risk, using risk-based search sequences to avoid such risk where possible and managing it elsewhere.
- 2.4 There is also a Memorandum of Understanding, "Development and Flood Risk (1994)" which was drawn up between the NRA and bodies representative of local planning authorities in respect of development affecting the flood plain.

3.0 LOCAL AUTHORITIES

- 3.1 As well as being the planning authority a local authority may exercise powers available to it under the Land Drainage Act 1991 and the Public Health Act 1936. The local authority land drainage engineer will usually look at planning applications for development proposals that may have an effect on ordinary watercourses. Of interest will be proposals that include works in the bed of or on the banks of an ordinary watercourse, culverting of an ordinary watercourse and/or will result in surface water discharges which will increase the flows in watercourses.
- 3.2 When looking at planning applications the land drainage engineer may bring to the attention of the planning authority any non-watercourse land drainage issues which they should take into consideration before granting planning permission.
- 3.3 A local authority land drainage engineer may be aware of flooding problems relating to the land drainage system that are not known about by the Agency.
- 3.4 Where a development proposal has significant land drainage implications there is likely to be close liaison throughout the planning process between the local authority planning officers, local authority land drainage engineer and the Agency.

4.0 OTHER AUTHORITIES AND ORGANISATIONS

- 4.1 Developers must also be aware that the following organisations may also have an interest in the disposal of surface water run-off from new development and may need to be consulted at some stage of the planning process.
- Highway authorities - disposal of surface water from highway drainage systems.
 - Water companies - disposal of surface water to sewers being put forward for adoption.

5.0 SCOPE OF GUIDANCE NOTES

- 5.1 The guidance notes cover the following topics:
- Development on floodplain or in flood risk areas.
 - Effects of surface water discharges from new development on existing watercourses.
 - Alterations to and culverting of watercourses.
 - Development close to watercourses - Future access.
 - Provision and maintenance of sustainable urban drainage systems.
 - Development behind existing or proposed flood defences.

6.0 FLOODPLAIN AND FLOOD RISK AREAS

- 6.1 The developer's attention is drawn to the following documents:
- Planning Policy Guidance Note 25 (PPG 25) "Development and Flood Risk".
 - "Policy and Practice for the Protection of Floodplains" - Environment Agency.
 - Agency indicative flood risk maps and S105 survey details of specific flooding areas.

- 6.2 The Agency policy is to resist development in floodplain and flood risk areas. Floodplain may be adjacent to main rivers, ordinary watercourses or the coastline.
- 6.3 When development is permitted in the vicinity of any main river, ordinary watercourse or the coastline, the developer must consider the risk of flooding and how it may affect the new properties. The developer may be able to obtain historical information on flood levels from the Agency or local authority in order to set slab levels. However, if this information is not available for a watercourse, it may be necessary for the developer to carry out a catchment study before development will be permitted.
- 6.4 If development is permitted on main river or ordinary watercourse flood plain, ground levels must not be raised and the developer must compensate for loss of flood plain covered by building footprints.

7.0 EFFECTS OF SURFACE WATER DISCHARGES FROM NEW DEVELOPMENT ON EXISTING WATERCOURSES

- 7.1 Formal consent is required from the Agency for a surface water discharge to any watercourse where the discharge includes pollutants.
- 7.2 Consideration will be given to the effect any surface water discharge from a new development may have on the flows in the receiving watercourse or flooding that occurs upstream or downstream of the development site. Where a watercourse is operating at close to capacity, or flooding has occurred, the developer may be required to carry out a catchment study to establish the effects of a new discharge.
- 7.3 Where a discharge of surface water from a new development will have an adverse effect on an existing watercourse, and is likely to cause or increase flooding, the planning authority will be advised that the application should be refused. In such circumstances the developer will need to find a suitable means of disposing of the surface water to overcome relevant drainage objections.

8.0 ALTERATIONS TO AND CULVERTING OF WATERCOURSES

- 8.1 The consent of the Agency is required under the Land Drainage Act 1991 before any watercourse can be altered or culverted. However the Agency will not usually consent the culverting of a watercourse unless it is for access purposes.
- 8.2 The details of any culverting proposals may also have to be submitted to the local authority for approval under the Public Health Act 1936.
- 8.3 Restrictions on alterations to and culverting of watercourses can have an impact on a developer's proposals for new development. The Agency should therefore be contacted at an early stage. If culverting is permitted the developer must refer to the attached Information Sheet.

9.0 DEVELOPMENT CLOSE TO WATERCOURSES AND FLOOD DEFENCES - FUTURE ACCESS

- 9.1 When development is proposed near any watercourse or flood defence, it is essential that provision is made for future access to enable maintenance work to be carried out.

- 9.2 There are specific Agency requirements in respect of main river and sea defences, which are usually covered by Bylaws. The developer must therefore contact the Agency early in the planning stage of any development to establish their requirements and ensure that the development proposals comply.
- 9.3 It is unlikely that there will be any Bylaws in force in respect of ordinary watercourses. The planning authority will therefore be advised to ensure that development proposals make provision for future access to watercourses for maintenance purposes. As a general rule no structures or other obstructions should be permitted within 3 metres of the banks of an ordinary watercourse.
- 9.4 To ensure that any access requirements are safeguarded in the future, the developer will be required to include the specified requirements in individual property deeds.

10.0 PROVISION AND MAINTENANCE OF SUSTAINABLE URBAN DRAINAGE SYSTEMS (SUDS)

- 10.1 The Agency and this Council promotes the use of SUDS for the disposal of surface water run-off from new development. Developers are therefore advised to give early consideration to the use of SUDS and the implications of these techniques on their development proposals.
- 10.2 Where the use of infiltration source control methods is not advisable due to unsuitable ground conditions, the developer will be required to provide facilities to balance the surface water run-off before it is discharged from the site. Where balancing and/or retention ponds are to be incorporated into the development layout early consultation with the Agency and the planning authority will be necessary.
- 10.3 Where SUDS are to be used, particularly where the balancing of flows is required to enable a development to take place, the planning authority will be advised to ensure that the developer makes adequate provision for the future maintenance of the SUDS. Great care is necessary when considering future maintenance to ensure that any agreed arrangements are sustainable, are adequately funded and have no serious health and safety implications.

11.0 DEVELOPMENT BEHIND EXISTING OR PROPOSED FLOOD DEFENCES

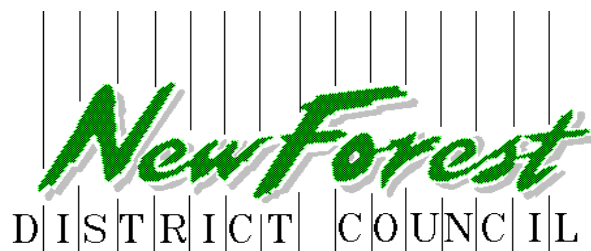
- 11.1 The developer must consult the Agency in the early planning stages of any development where the proposals are behind existing or proposed flood defences. Where the defences are not of an appropriate standard the Agency will object to the proposals.
- 11.2 Developers will be required to carry out an assessment of the life expectations of existing or proposed flood defences against the life expectations of the proposed development.
- 11.3 The planning authority will be advised by the Agency that adequate provision must be made by the developer for the future maintenance of any flood defences. It is unlikely that the Agency will take on responsibility for these.

12.0 GENERAL ADVICE

- 12.1 The siting of new development in or close to flood risk areas, and the adequate disposal of surface water run-off are vital considerations when planning new development. If they are not given adequate consideration future drainage problems may occur and property and life may be put at risk. The developer is responsible for ensuring the safe development and secure future occupancy of his site and should ensure that appropriate expertise is available to carry out any necessary investigations and to design and execute any necessary flood alleviation works.
- 12.2 **For further information telephone 02380 285647.**

**C Michalski
IS-LD4 (Last amended June 2001)**

App_7



CONSULTANCY SERVICES

Town Hall, Avenue Road, Lymington, Hampshire, SO41 9ZG

PLANNING APPLICATION No.

INFORMATION FOR DEVELOPERS

WATER RESOURCES ACT 1991, LAND DRAINAGE ACT 1991 AND PUBLIC HEALTH ACT 1936

There are a number of **LAND DRAINAGE** issues which may be relevant to any development but are not covered by the planning process.

Rivers, watercourses and ditches retain their legal status if they are flowing within pipes or culverts, and when dry.

<i>If You Want To:-</i>	<i>You Must Obtain The Consent Of The:-</i>
Carry out any works or erect any structure on or in the vicinity of a main river or sea defence.	Environment Agency
Pipe, culvert or alter any watercourse, including rivers and ditches.	Environment Agency and/or This Council's Director of Environment Services
Create or alter any discharge which may include pollutants to a river, watercourse or ditch.	Environment Agency

IT SHOULD BE NOTED THAT THE CULVERTING OF NATURAL WATERCOURSES WILL BE RESISTED FOR BOTH HYDRAULIC AND ENVIRONMENTAL REASONS, UNLESS IT IS FOR ACCESS PURPOSES.

The New Forest District Council contact is Stuart Beaton on 02380 285647.

The Environment Agency have two area offices:-

Southern Region
Colvedene Court
Wessex Way, Colden Common
Winchester
Hampshire SO21 1WP
(Tel: 01962 713267)

South Western Region (for the Avon Valley)
Rivers House, Sunrise Business Park
Higher Shaftesbury Road
Blandford Forum
Dorset DT11 8ST
(Tel: 01258 456080)

REMEMBER

IT IS FOR YOU to make sure that you have the right consents. The granting of planning permission does **NOT** imply that all other consents are in order.

CONSULTANCY SERVICES – ENGINEERING GROUP**CATCHMENT MANAGEMENT STUDY****PROGRESS REPORT – JUNE 2001****1. CURRENT SITUATION**

<u>CATCHMENT</u>	<u>STAGES COMPLETED</u>		
Brockenhurst	R	F	M
Bartley	R	F	M (95%)
Marchwood	R	F	
Lymington	R	F	
Great Ballard	R	F	M
Becton	R	F	
Ashurst	R		
Ripley			

KEY: R = Report F = Flow Survey M = Computer Model

2. FUTURE ACTION

As a result of the Government introducing the High Level Targets and the need to reallocate resources further action on the catchment study has been put on hold for the time being.

When work restarts the first priority will be to complete the plans listed above. However, it is considered that flow surveys and computer models are not required for all the catchments. Of the outstanding work it is considered that a model is required for the Becton catchment but not for Ashurst and Ripley.

A decision must then be made on the programme of works for other catchment plans, which should be selected from those that are categorised as critical ordinary watercourses.

C Michalski
LDCMP2 June 2001

App_8

John Ranson

circular



Local Government Association

264/01

24 May 2001

To Chief Executives (local authorities)
Clerks to Police, Joint Fire and Passenger Transport Authorities

Please circulate to: Spokespersons for flood defence and Heads of Engineering/Technical Services/Emergency Planning

Environment Agency/LGA flood defence protocol

Attaches a copy of the revised protocol on Flood Defence for the guidance of local authorities. The protocol establishes a framework for the way in which local authorities and the Agency will assist each other in carrying out their respective duties and responsibilities, to achieve a seamless flood defence service. Local authorities are encouraged to enter into local agreements with the Agency using part 2 of the protocol as a model.

Contact: Peter Toombs (020 7664 3046) peter.toombs@lga.gov.uk

Dear Colleague

The Local Government Association and the Environment Agency (EA) have produced a number of protocols that aim to set out the relationship that should exist between the local authority and the Agency in the discharge of shared duties and responsibilities. The attached protocol on flood defence replaces and updates the original version circulated in August 1998. It takes account of the additional requirements arising out of the Easter Floods Action Plan; the Government's objectives for flood defence and the Agency's supervision by consent of the local authority role in flood defence.

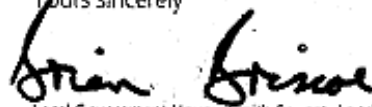
The protocol is in two parts; the first part sets out the national relationship between local authorities and the Environment Agency, while the second is intended for discussion and adoption locally.

The LGA recommends to all local authorities in England and Wales that they should work with the Agency in accordance with the framework given in the protocol and enter into a local Agreement with the Agency along the lines set out in Part 2 of the document.

The Association welcomes feedback on the operation of the protocol and would be grateful to learn of progress with local agreements.

The protocol can also be found on the LGA web site at
<http://www.lga.gov.uk/publicprotection/floodprotocol.pdf>

Yours sincerely



Local Government House, Smith Square, London SW1P 3HZ DX 119450 Westminster 2 E-mail peter.toombs@lga.gov.uk

Chief Executive: Brian Briscoe

Tel 020 7664 3000 Fax 020 7664 3030 Information Helpline 020 7664 3131 <http://www.lga.gov.uk>

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**ENVIRONMENT AGENCY and LOCAL
GOVERNMENT ASSOCIATION**

**FLOOD DEFENCE PROTOCOL
Part 1 – General Principles**

1. 0 INTRODUCTION

1.1 Background Information

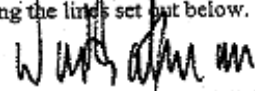
The Local Government Association (LGA) and the Environment Agency agreed and signed a Memorandum of Understanding on 14th February 1997, in which it was stated that a number of specialist protocols would be developed.

In December 1999 the Agency and the LGA produced a document titled "Working Together Better" a plan for developing a better relationship between the Agency and local authorities (LAs).

This document proposed that the Agency and the LGA co-operate to revise the existing Flood Defence Protocol. The revision is required to take account of the additional requirements that have arisen out of the Easter Floods Action Plan; the Government's objectives for flood defence and the Agency's supervision by consent of the local authority role in flood defence.

This Protocol for Flood Defence establishes a framework for the way in which LAs throughout England (and Wales) and the Agency will assist each other in carrying out their respective duties and responsibilities. It emphasises working together to achieve a seamless flood defence service that takes in to account sustainable development, best practice and best value [see Appendix B - Agency and LA Roles and Responsibilities].

The LGA recommends to all local authorities in England and Wales that they should work with the Agency in accordance with the above framework and complete a local Agreement with the Agency along the lines set out below.

Signed  for LGA

Signed  for Environment Agency
19.4.01

APPENDICES

- A MAFF Flood Defence Policy
- B Roles and Responsibilities of Agency and Local Authorities
- C Definitions

APPENDIX A

MAFF FLOOD DEFENCE POLICY

MAFF Flood and Coastal Defence Policy

This protocol needs to be read in context with MAFF's stated policy aims and objectives for flood and coastal defence which are set out in the 1993 Strategy for Flood and Coastal Defence in England and Wales. In this document the stated policy aim of MAFF and the National Assembly for Wales (NAW) is:

"To reduce the risk to people and the developed and the natural environment from flooding and coastal erosion by encouraging the provision of technically, environmentally and economically sound and sustainable flood defences."

The key strategic objectives of MAFF to achieve this policy are:

To encourage the use of adequate and cost effective flood warning systems;

To encourage the provision of adequate, economically, technically and environmentally sound and sustainable flood and coastal measures;

To discourage inappropriate development in areas at risk from flooding and coastal erosion.

APPENDIX B

ROLES AND RESPONSIBILITIES OF THE AGENCY AND LAs AND DEFINITIONS

Environment Agency

The Environment Agency has an overarching responsibility to protect and enhance the environment with a principal aim to make a contribution towards achieving sustainable development.

The Agency is the principal flood defence operating authority in England and Wales, with powers to take measures against flooding on rivers and tidal waters.

Most flood defence powers are generally permissive, and do not confer any statutory obligation on the Agency or others to provide protection from flooding. These powers are complemented by the wider planning powers of Planning Authorities to control development in flood risk areas.

Consent from the Agency is required for structures in, over or under Main Rivers and for obstructions in non-main river watercourses.

The Agency Land Drainage byelaws generally apply to main rivers and their floodplains, and to areas within particular distances from flood and coastal defences.

The Agency undertakes its flood defence responsibilities through five main business activities:

Flood warning, including data acquisition and flood forecasting;

Operations, including the maintenance of river and flood defences;

Improvements, including new flood defence structures;

Regulation, including advice to planning authorities on new development

Strategic Planning to coordinate and prioritize Agency and Local Authority flood defence activities.

The Agency also exercises a general supervision duty in all matters relating to flood defence.

Local Authorities

Local Authorities (whether as County, District, Metropolitan or Unitary Councils) [hereafter referred to as LAs] have a significant role to play in flood defence and coastal protection. Powers do vary between the different types of LAs.

LAs may carry out works on watercourses, other than 'Main River' and those in Internal Drainage Board Areas, in order to alleviate flooding from rivers or the sea. LA's also have certain powers of enforcement on ordinary watercourses.

Maritime district councils (district councils that adjoin the sea) have powers to protect the land against erosion or encroachment from the sea (coastal protection).

LAs are responsible for co-ordinating emergency plans of local organisations involved in an emergency response. In major flood situations, LA's provide an immediate response in order to care for people affected. The precise nature and extent of the response will depend on available resources and local arrangements.

LAs have powers under the Town and Country Planning Acts to regulate land use within England and Wales. (Planning Authorities are responsible for protecting the flood defence interests of people whose property may be affected by development proposals).

LAs can make byelaws that apply to non-main rivers to ensure the efficient working of the drainage system, and to the coast.

APPENDIX C DEFINITIONS

Types of Watercourses

Rivers and watercourses are divided into two legal categories "Main River" and "ordinary watercourses". Main rivers are shown on statutory maps held by the Agency and MAFF/NAW. All other rivers, streams and watercourses are ordinary watercourses.

A "critical ordinary watercourse" is an ordinary watercourse (i.e. non main river) which has the potential to put at risk from flooding a large number of people and property.

Flood Risk Maps

The Agency programme of flood risk mapping is known as Section 105 maps (from the Water Resources Act 1991, and circular DoE 30/92, MAFF FD1/92, Technical Advice Note (Wales) 15). The purpose of these maps is to indicate indicative floodplains.

Water Level Management Plans

Water Level Management Plans (WLMP's) are produced for fluvial watercourses that include a Site of Special Scientific Interest (SSSI) where water levels may have an impact on the habitat of that site.

Shoreline Management Plans

Shoreline Management Plans (SMP's) have been introduced to encourage the use of the coastal strip in a more holistic manner. The coastline is split into discrete self contained coastal cells and the impact of the coastal processes and man's activities are considered at a sub cell level.

Each sub cell is broken down into a management unit based on the primary coastal process at work in that unit (either erosion or sedimentation). A Policy is then produced for each management unit considering the risk involved and the possible options for management of those risks.

REFERENCES

1. MAFF Flood and Coastal Defence 1996
2. MAFF High level Targets for Flood and Coastal Defence and the Elaboration of the Environment Agency's Flood Defence Supervisory Responsibility 1999
- 3.
3. MAFF Water Level Management Plans 1999

**ENVIRONMENT AGENCY and LOCAL GOVERNMENT
ASSOCIATION**

**FLOOD DEFENCE PROTOCOL
Part 2 - Local Protocol between [the Authority] and the
Environment Agency**

1. INTRODUCTION

Background Information

This model local protocol for Flood Defence between [XXXXXX], hereby called 'the Authority' and the Environment Agency, hereby called 'the Agency', implements the broad principles agreed and signed by the Local Government Association and the Environment Agency in the "Flood Defence Protocol, Part 1 - General Principles", on XXth XXXXX 2000. The protocol is recognised as a framework on which the Agency and local authorities can work together to provide a seamless and integrated flood defence service for England (and Wales). It also recognises the emerging and changing context of regional governance and the need for a more open and transparent planning process.

This local protocol encourages the Authority and Agency to work together to manage the flood risk and assist each other in carrying out their respective duties and responsibilities. It emphasises working in partnership to achieve a seamless flood defence service that takes in to account sustainable development, best practice and best value.

The implementation of this local protocol will be achieved through the forward planning process, the provision and exchange of information, and with monitoring and review.

Working Together Better

In December 1999 the Agency and the Local Government Association produced a document titled "Working Together Better" for developing a better relationship between the Agency and local authorities (LA's).

The Plan identified the need for a new Flood Defence Protocol.

2. SHARING INFORMATION AND WORKING WITH THE COMMUNITY

Sharing Information

The Authority has a general interest in the social, economic and environmental well being of the communities it serves, and can use the flood defence advice of the Agency to make a more holistic appraisal of local issues, leading to better and more sustainable decision making.

The Authority will provide the Agency with advice and information on issues related to flood risk in its area.

Working with the Community

The Agency wants to connect better with local communities, to achieve greater understanding and support for its work and would like the Authority to assist in the communication of the local flood defence issues to the communities they serve.

The Authority will:

Investigate and communicate community concerns and issues associated with flood defence to the Agency.

The Agency will:

Continue to encourage the use of public meetings and exhibitions on flood defence plans, strategies and schemes, supported by booklets and information sheets.

3. FUNDING

Funding through Flood Defence Committees

The Agency has executive Flood Defence Committees each having a statutory majority of elected members of local authorities from the geographic area that committee serves. These committees are responsible for raising the necessary funding by levy from local authorities and ensuring that this funding is spent locally, but at the same time ensuring a degree of flexibility exists.

The Agency has an obligation to carry out its flood defence function through these committees and spend the money raised.

The Agency will:

Prepare Medium Term (3-5 years) Regional Flood Defence Business Plans, updated annually, for determining appropriate levels of service and required funding.

Develop, implement and monitor regional performances against the MAFF High Level Targets.

The Authority will:

Ensure that its members on Flood Defence Committees are fully aware of the necessary funding that is required to meet the flood defence needs of the communities and areas they represent.

4. STRATEGIC PLANNING

MAFF High Level Targets

From 1st April 2000 the MAFF High level Targets come in to operation. These set the context for the elaboration of the Agency's supervisory role.

The Agency and Authority will work in partnership on the implementation of the Agency's supervisory role.

Achievement of MAFF High Level Targets;

As the principal operating authority, and with its general flood defence supervisory role, the Agency has a key responsibility in the achievement of MAFF high level targets. This will be achieved through its supervision by consent role, advice to operating authorities and by monitoring and reporting on progress of targets.

The Agency will:

Provide advice and call for information in a timely manner.

The Authority will:

Take full and proper account of advice given by the Agency

Respond to advice in a constructive way and provide information in a timely manner.

Produce and copy to the Agency a publicly available policy statement setting out plans for the delivering the Government's policy aims and objectives.

Awareness of flood risk (flood risk maps)

The Agency and LA's individually, hold much information about flood risk. The Agency has just completed a large scale national programme of mapping flood risk areas, according to priorities identified with Planning Authorities (this programme is known as the Section 105 surveys).

The Agency will:

Provide updated flood risk maps to the Authority as they become available.

The Authority will:

Provide the Agency with any information in their possession relating to flood defence or land drainage, sought by the Agency in order to carry out its flood defence function.

Provide information on the state of its own flood defences.

Co-ordination of all flood defences, watercourses and coastal defences

There is a need to collect and co-ordinate information on all of the country's flood and coastal defences.

The Agency will:

Create and maintain a new national Flood Defence and Coastal Protection Database, making relevant information available to the Authority.

Ensure a programme is in place for the regular inspection of all flood and coastal defence assets and lengths of Main River and critical ordinary watercourses.

The Authority will:

Provide the Agency with agreed information for all flood and coastal defence assets for which they are the operating authority.

Standards of protection provided by and performance of existing defences

There is a need to make an assessment of the level of protection offered by the country's existing flood defences at both a national and local level.

The Agency in partnership with the Authority will:

In relation to all flood defence assets and watercourses identified by the Authority and placed on the Flood Defence and Coastal Protection Database, provide an assessment of the risk of flooding and action taken or proposed to remedy a deficiency.

Agree methods of assessing whether an ordinary watercourse is critical or not.

The Agency will:

Provide information, guidance and advice on the inspection of assets and watercourses.

The Authority will:

Provide a prioritised forward plan to the Agency of capital and maintenance work for which they are responsible. This will cover the current year and the following 3-year period, they will be updated annually.

5. DEVELOPMENT CONTROL

Future development proposals that have potential impact on flood risk

The Agency and the Authority will work together on the implementation of the recommendations of Planning and Policy Guidance (PPG) 25 – Development and Flood Risk.

The Authority will:

Ensure that flood risk statements are included in Local Authority Structure Plans.

Ensure that when drawing up development plans and in considering planning applications, local planning authorities are aware of the assessed risk of coastal erosion as set out in SMP's.

The Agency will:

Advise the LA on flood risk aiming to identify areas of critical flood risk and areas where certain types of development may be permissible.

The Agency will in partnership with the Authority:

Report to MAFF and DETR on the success of the Agency's responses to development plans and planning applications (identifying where decisions have been contrary to Agency advice).

Report to MAFF and DETR on the inclusion of adequate flood risk statements and coastal erosion statements in the Authority's Development Plans.

Regulation of Others

The Agency has a key role in the regulation of other parties carrying out work on watercourses. This is achieved through the Land Drainage Consenting process for such works as culverting and bridging of watercourses.

The Agency will:

Make as freely available as possible its Floodplain Policy, Riparian Owner Guide, Best Practice Guides and other relevant guidance.

The Authority also has powers to ensure that other parties clear their watercourses.

6. ENVIRONMENTAL ASPECTS

Introduction

The Agency and Authority both provide protection and environmental management for the public, and should strive to work together.

Application of conservation duty and environmental impact.

The Agency and LA's each produce WLMP's where water level control affects SSSI's. Generally, the Agency is producing them for sites related to Main River and the Authority for ordinary (and critical) watercourses, these contribute to Biodiversity Action Plans.

WLMP's and SMP's inform both County Structure Plans and Local Development Plans where appropriate.

The Authority will:

Report annually to the Agency on all losses and gains of habitats covered by Biodiversity Action Plans as a result of their flood and coastal defence operations.

The Agency will:

Lead in the establishment of national systems for the integration and processing of local environmental data collected and managed by the Authority and the Agency.

7. FLOOD WARNING

An Integrated Flood Forecasting, Warning and Emergency Service

The Agency and the Authority will work together to achieve a seamless and integrated flood defence service of forecasting, warning and emergency response to the public:

The Agency will:

Be responsible for providing flood forecasting and flood warning.

Commence a Flood Awareness Campaign based on the premise that many people in flood risk areas are unaware of the Agency's role in flood warning and do not understand what to do before, during and after a flood. This will be an ongoing long-term commitment not a one-off project.

Promote regional seminars on the wider flood defence issues and appear at local shows where appropriate.

The Authority will:

Assist the Agency in determining whether a flood warning service and associated dissemination plans can be provided

In a flood situation provide an immediate response in order to care for people affected.

Flood Warning Dissemination Plans

Flood Warning Dissemination Plans are prepared by the Agency in consultation with the Authority and others. Copies of plans for specific areas can be inspected in the relevant Agency area or Authority office.

Flood Emergency Programmes at National, Regional and Local levels

The response to a major flooding incident involves a number of organisations working together in a well co-ordinated and rehearsed manner at a national, regional and local level

The Agency will:

Arrange in conjunction with local authorities, emergency services and other partners a programme of flood emergency exercises at a national, regional and local level.

The Authority will:

Fully assist and participate in all local flood emergency exercises.

8. AGREEMENT

The Agency and the Authority will support this protocol agreement and work together to implement, review and develop it.

Signed on behalf of the Agency: -----

Title _____

Signed on behalf of the Authority: -----

Title _____