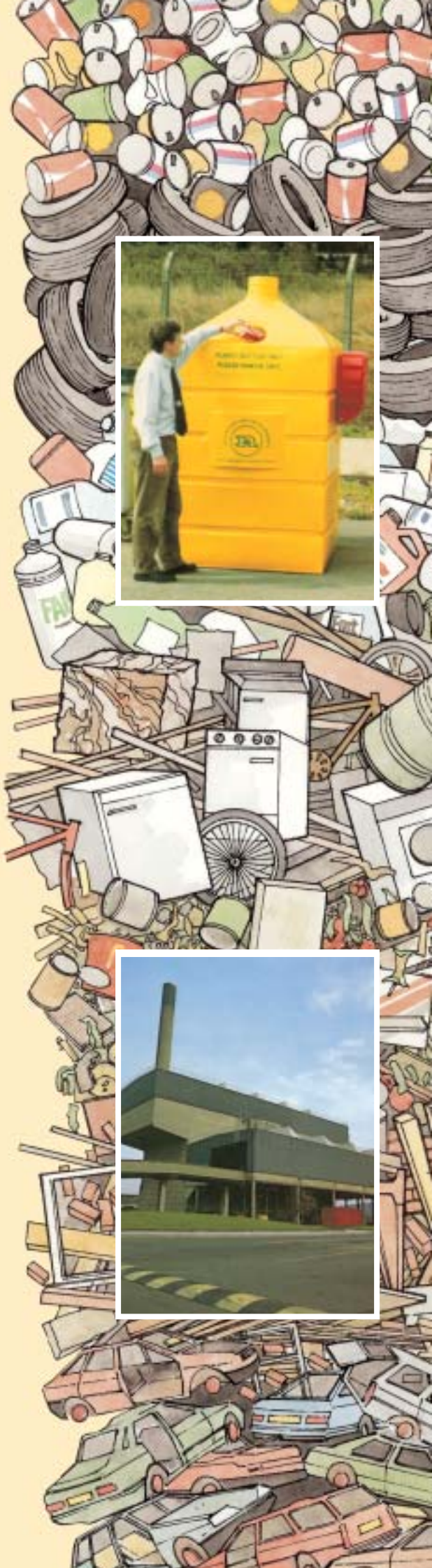
Nottinghamshire
County Council
Environment

NOTTINGHAMSHIRE AND NOTTINGHAM

WASTE LOCAL PLAN



City of
NOTTINGHAM

ADOPTED JANUARY 2002

NOTTINGHAMSHIRE AND NOTTINGHAM WASTE LOCAL PLAN

Adopted January 2002

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Preface

Nottinghamshire County Council and Nottingham City Council adopted this Waste Local Plan on 9 January 2002 in accordance with the provisions of the Town and Country Planning Act 1990, as amended by the Planning and Compensation Act 1991. This Plan forms part of the Statutory Development Plan for Nottinghamshire.

The Plan sets out the policy framework for dealing with future waste management proposals and identifies a range of possible future sites. The Waste Local Plan is set within the context of the Nottinghamshire Structure Plan Review which was adopted on 13 November 1996.

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Glossary of Terms and Abbreviations

Aerobic — "In the presence of oxygen."

Aftercare — Steps necessary to bring restored land up to the required standard for either agriculture, forestry or amenity - usually over a 5 year period.

After-Use — The ultimate use after waste disposal sites are reclaimed.

Aggregates — Sand, gravel, crushed rocks and other bulk materials used by the construction industry.

Agricultural Classification — The Ministry of Agriculture, Fisheries and Food grading system based on the degree to which soil, relief and climate impose long term limitations on agricultural land.

Grade 1: Land with minor or no physical limitations to agricultural use.

Grade 2: Land with some minor limitations which exclude it from Grade 1.

Grade 3: Land with moderate limitations (subdivided into 3a, good quality agricultural land, and 3b, moderate quality agricultural land).

Grade 4: Land with severe limitations.

Grade 5: Land with very severe limitations.

Agricultural Grades 1,2 & 3a — Agricultural land defined by Government policy as the best and most versatile to be protected where possible from irreversible loss or damage. This land is an important national non-renewable resource for future generations.

Agricultural Waste — A general term used to cover animal excreta, litter, straw waste, carcasses and silage liquors.

Anaerobic — "In the absence of oxygen."

Ancient Woodland — Sites which have had a continuous woodland cover since at least 1600 AD to the present day and have only been cleared for underwood or timber production.

Aquifer

A permeable geological stratum or formation that is capable of both storing and transmitting water in significant amounts.

Area of Search

An area in which certain specified forms of development are likely to be acceptable. It is not, however, expected that the entire area will be suitable. Areas of search are generally used where there is insufficient information to be able to allocate specific sites.

Bentonite

A clay which is believed to result from the decomposition of volcanic ash. It is highly impervious and can be used to line and cap waste disposal sites. Major commercial sources occur in the western USA and Continental Europe.

Biodegradation

The breakdown of materials by the action of micro-organisms.

Biodiversity

Biological diversity, or the variety of life. This refers to all wild species and habitats which support them. The Biodiversity approach acknowledges the continuing importance of protected areas and stopping the loss of wildlife from the wider environment.

Bio-gas

Gas formed by anaerobic digestion of organic materials. Typical composition 62% methane, 38% carbon dioxide. Can be used as a fuel for heat and/or power generation.

Biological and Geological Sites (Alert Schedule)

As defined by the Nottinghamshire Biological and Geological Records Centre, Wollaton Hall, Nottingham.

<u>Grade 1 (County/Regional) Sites</u>
These represent the most important examples of their particular habitat or rock-type extant at the time of grading. The destruction of any of these alert sites would be a major loss to the county.

Biological Grade 1 alert sites include the best examples of the major semi-natural habitat types in the county, and so tend to be extensive and long-established, and often have a history of management conducive to a high wildlife interest. They usually also contain important communities of rare or notable species.

Geological Grade 1 alert sites include the best examples of each of the major rock-types in the county, type sections and localities which have scientific importance either as fossil sources or as exposures of particular structural features.

Grade 2: (District) Sites

Biological Grade 2 alert sites usually demonstrate the characteristic association of the particular habitat type that they represent, and may also contain rare and notable species.

Geological Grade 2 alert sites are usually good representatives of their type but lack the particular characteristics of the higher grade sites.

The destruction of any of these alert sites would be a major loss to the district in which they occur.

Biologically Stabilised

The state where a system has completely degraded its nutrient source biologically to produce an inactive medium which is no longer capable of supporting growth.

Birdstrike

The risk presented by birds being attracted to waste disposal sites close to airports or airfields. Collisions between flocks of birds and aircraft are a serious threat to aviation safety.

Borehole

A hole drilled outside a disposal site in order to obtain water samples and to monitor for landfill gas migration.

Chemical Oxygen Demand (COD)

A measure of the total amount of chemically oxidizable material present in liquid.

Civic Amenity Waste

A sub-group of household waste, normally delivered by the public direct to sites provided by the Waste Disposal Authority. Consists generally of bulky items such as beds, cookers, bottles and garden waste.

Clinical Waste

Waste consisting wholly or partially of human/animal tissue, drugs, dressings, syringes, medicinal products, and other surgical equipment, being waste which, unless rendered safe, may be hazardous to persons coming into contact with it. It includes any other waste arising from medical, nursing, dental, veterinary, pharmaceutical or similar practices, which may present risks of infection.

Colliery Spoil

The waste shales and clays removed from coal during processing (normally from deep-mined coal).

Commercial Waste

Waste arising from premises used wholly or mainly for trade, business, sport, recreation or entertainment, excluding household or industrial waste.

Construction/Demolition Waste

Derives from the construction, repair, maintenance and demolition of buildings and structures. It mostly includes brick, concrete, stone plaster, clay, subsoil and topsoil, but it can also contain quantities of wood from doors, windows and joists and also metal from pipes and roof trusses.

Controlled Waste

This comprises household, industrial, commercial and clinical wastes, etc., which require a Waste Licence for treatment, transfer or disposal. The main exempted categories comprise mine, quarry and farm wastes. Radioactive and explosive wastes are controlled by other legislation and procedures.

Countryside Appraisal

In 1990 Nottinghamshire County Council decided to carry out a detailed appraisal of the county's countryside. This work was undertaken by the Council's Countryside Group, located within the Department of Planning & Economic Development. The project involved the collation of a wide range of environmental data and a systematic landscape assessment of the county. The results have been used to underpin the Department's work in landscape protection, landscape conservation and management, nature conservation, environmental appraisal, development control and the formulation of statutory and non-statutory plans. The Department's Geographical Information System has played a vital role in storing and analysing the Countryside Appraisal research information. It is now being utilised by researchers and decision makers for a variety of other applications and uses, within the Council, and by the Council in partnership with a range of other organisations.

The aim of the Countryside Appraisal project has been to provide both a detailed information base and strategic overview of the county's rural environment, around which environmental

planning, landscape management and other decisions can be made. The Council is seeking to promote an integrated approach to landscape protection and landscape conservation, drawing together the efforts and resources of the planning system, local authorities and all the major organisations in the landscape field.

The main components of the countryside Appraisal are:

1. The Mature Landscape Areas Study

   This study identified areas of mature landscape containing features such as mature deciduous woodland, intact field patterns (including ancient species rich hedgerows), permanent grassland, heathland, parkland, and mature river/stream courses with established riparian features. Policies are successfully being included in local plans to protect Mature Landscape Areas from major forms of development. The MLA concept has been supported by inspectors at a number of recent local plan public inquiries.

2. Countryside Character Assessment

   A major component of the Countryside Appraisal was a comprehensive landscape character assessment study, based on guidelines developed by the Countryside Commission. This forms part of the Commission's Countryside Character Programme - a national initiative to capture and express the character of the English landscape. The character assessment seeks to understand the factors that make one area distinct from another, by a structured examination of geology, topography, soils, vegetation cover and the influence of human exploitation of the land. The assessment involves the classification and description of the landscape into a series of Regional Character Areas and Landscape Types. The forces and pressures for change within each landscape are also assessed to build an understanding of how 'tolerant' particular landscapes are to accept future change. This leads to the development of a series of management

strategies and key recommendations for each landscape type, along with detailed guidelines for the management of the various features and components that are found in each area.

Cover

Material used to cover wastes tipped at a disposal site. Daily cover is used at the end of each working day to prevent odours, wind-blown litter, and insect or rodent infestation. The final cover is the layer, or layers, of material placed on the surface of the disposal site during its reclamation.

Crushed Concrete

Demolition waste including concrete and brick which is crushed and re-used as an aggregate for construction processes.

Crushed Rock

Hard rock, most commonly limestone and granite, which has been quarried, fragmented and graded for use as aggregate.

Decomposition

Breakdown of matter into more simple chemical forms. Decomposition may be caused by physical, chemical or micro-biological action.

Derelict and Degraded Land

Land so damaged by industrial or other development that it is incapable of beneficial use without treatment. This covers disused or abandoned land requiring restoration works to bring it into use or to improve its appearance. It does not include land with derelict appearance from natural causes such as marshland, mud flats or sand dunes, neglected woods or farmland, waste-land, generally land formerly affected by development but which, with time, has blended into the landscape. (Definition adopted by Department of the Environment).

Desulphogypsum

A by-product of the flue gas desulphurisation process which reacts limestone with sulphur dioxide to produce gypsum and carbon dioxide. This normally takes place at coal fired power stations.

Dioxins

A group of compounds with the chemical name of "Polychlorinated Dibenzo-Para-Dioxins". They have no industrial use, being formed as trace by-products in combustion and other high temperature processes involving chlorine and organic compounds, including waste incineration. They have differing levels of toxicity.

Employment Sites

Employment sites are defined in the District Council's Local Plans for various business and industrial uses.

Exhaust Gases

The gases that emerge from the combustion chamber of an incinerator, before they have passed through all the stages of the gas-cleaning system.

Floodplain

All land adjacent to a watercourse over which water flows in times of flood or would flow but for the presence of flood defences. The limits of floodplains are defined by the peak water level of the 1 in 100 year return period flood or the highest known water level, whichever is the greatest.

Flue Gas Desulphurisation (FGD)

Process by which emissions from coal-fired power stations are treated to remove sulphur content. Resulting by-product known as desulphogypsum (also see) and can be used to make plasterboard.

Furnace Bottom Ash (FBA)

This is produced by the agglomeration of hot ash particles which fall to the bottom of a coal fired power station or an industrial furnace. FBA accounts for 20 - 25% of power station ash (PFA accounts for 75 - 80% (also see)). Sold for use as an aggregate in block making.

Gasification

The production of gaseous fuels by reacting hot carbonaceous materials with air, steam or oxygen.

Gas Migration

The movement of gas from the wastes within a disposal site to adjoining strata, or emission into the atmosphere.

Greenhouse Effect

The warming of the Earth's surface and lower atmosphere due to gases such as carbon dioxide and methane (greenhouse gases) which form a barrier to infra-red radiation from the Earth.

Groundwater

Water associated with soil or rocks below the ground surface, but is usually taken to mean water in the saturated zone.

Hardcore

Heavy material used in road foundations.

Hazardous Waste

Hazardous Waste is not defined in UK or Welsh Law and is a general term for waste that would pose a hazard to health or the environment if improperly managed. The term is often coupled with “difficult wastes”.

Heavy Metals	A general term used to cover the metals for which standards are set for emissions to air from incinerators: arsenic, cadmium, chromium, cobalt, copper, lead, manganese, mercury, nickel, thalium and tin.
Hectare	1 Hectare = 10,000 square metres or 2.471 acres.
Household Waste	Otherwise known as "domestic waste", consists of waste arising from a private dwelling or residential home, or from premises forming part of an educational establishment, or part of a hospital or nursing home (excluding clinical waste).
Household Waste and Recycling Centres (HWRCs)	Are facilities to which the public may bring domestic waste of any type, other than waste arising in the course of a business, for free disposal. They are open, normally, 7 days a week. Where possible, waste is sent to be recycled or re-used after being sorted. The remaining waste is sent for disposal.
Hydrogeological Characteristic	Characteristics relating to flow of water through rock eg permeability, transmissivity, porosity etc.
Industrial Waste	Is waste from any factory within the meaning of the 1981 Factories Act, and from any premises occupied by any industry under national ownership, excluding mines and quarries. Certain chemical wastes, wastes arising from the breeding and boarding of animals, scrap metal or wastes from dredging operations have been re-classified as industrial waste.
Inert Waste	Waste which, when deposited into a waste disposal site, does not undergo any significant physical, chemical or biological transformations and which complies with the criteria set out in Annex III of the EC Directive on the Landfill of Waste.
Landfill Gas	A mixture of flammable and asphyxiating gases produced by the anaerobic breakdown of biodegradable wastes in a landfill site. Principal constituents are methane 63.8%, carbon dioxide 33.6% and nitrogen 2.4%.
Leachate	Liquor formed by the action of water percolating through soil, waste or rock. It may contain substances which would pollute groundwater.

Licensed Site	A waste disposal or treatment facility which is licensed under the Environmental Protection Act for that function.
Local Nature Reserve	Under Section 21 of the National Parks and Access to the Countryside Act 1949, local authorities can create and manage local nature reserves (LNRs). Any site offering special opportunities for people to see, learn about and enjoy wildlife may qualify as an LNR as long as the site is in the local authority's control.
Lowland Heathland	Sites which include areas with heather species in the vegetation and/or areas of acidic grassland with scattered plants of oak, birch, bracken, gorse or broom. (Definition adopted by the Nottinghamshire Heathland Forum.)
Mineral	Rock or other material which has a commercial value for which it may be extracted. (A planning, not a geological, definition.)
Minerals Planning Guidance Notes (MPGs)	Government Policy Statements on a variety of minerals/waste planning issues to be taken as material considerations, where relevant, in deciding planning applications.
Natura 2000	Collective title for a network of internationally designated nature conservation sites defined under Article 3 of the European Habitats Directive. The network comprises Special Areas for Conservation (SACs) and Special Protection Areas (SPAs).
PCBs	A group of compounds with the name "Polychlorinated biphenyls". These chlorinated hydrocarbons were used as plasticizers and in transformer-cooling oils to enhance flame retardance and insulation. Their use was banned in 1979, but many old electrical components such as transformers and capacitors which contain PCBs still require attention. PCBs are a highly persistent bioaccumulative pollutant and require specialist disposal by incineration.
Permeable	Used to describe natural or synthetic, materials through which gas or fluids have the ability to pass fairly freely. Permeability may be achieved by a material being either porous or pervious. It is usually expressed as the coefficient of permeability. This property is not an absolute, and a cut-off coefficient of permeability of 10-9

	m/sec for water is often used to describe a landfill liner material as impervious. The coefficients of impermeability of materials for gases are likely to be greater. The opposite of permeable is impermeable.
Permeability	Measure of the ability to transmit water.
Pervious	A material is said to be pervious if it is permeable by virtue of mechanical discontinuities such as joints, fissures etc. The opposite of pervious is impervious.
Planning Policy Guidance Notes (PPGs)	Government Policy Statements on a variety of planning issues, to be taken as material considerations, where relevant, in deciding planning applications.
Porous	A material is said to be porous if it possesses cavities within it which can contain a fluid or gas. The term 'porosity ratio' is given to the percentage of void space that a material contains. A porous material is not necessarily permeable, eg sandstones, sands and gravels are commonly both, but clay is porous but impermeable since it will absorb liquid but will not allow it to pass through. The opposite of porous is non-porous.
Potable Water	Water of suitable quality for drinking.
Power Station Ash	Comprises pulverised fuel ash (PFA) and furnace bottom ash (FBA) (also see).
Primary Aggregates	Naturally occurring sand and gravel (both land won and marine dredged) and crushed rock (igneous, limestone, sandstone/ gritstone) used for construction purposes.
Pulverised Fuel Ash (PFA)	Ash produced by combustion plants such as power stations and large industrial boilers which use powdered coal as their main source of fuel. PFA is collected in the flues of the combustion plants by mechanical and electrostatic separators and is removed from the site as a dry powder by road vehicle or in a slurry state by pipeline for disposal or use as an aggregate in block making or as a lightweight bulkfill and in cement manufacture.

Putrescible Waste	Organic matter which when deposited at a disposal site will decompose to produce leachate and landfill gas.
Pyrolysis	The heating of organic waste matter in a closed environment (in the absence of air), to produce combustible gases, a low-calorific value solid fuel, and a mixture of oils and liquid effluent.
Reclamation	Operations associated with the disposal of waste designed to return the area to an acceptable environmental state, whether for the resumption of the former land-use or for a new use. It includes restoration, aftercare, events which take place before and during disposal operations, such as soil handling, and operations after disposal such as contouring or the planting of trees.
Recovery	A product of value recovered from waste materials. Includes recycling, energy recovery and compost.
Recycling	The collection and separation of waste materials which are processed to form the same or different useful product. Normally the process can be repeated.
Re-use	Waste materials which are re-used without any processing other than cleaning (e.g. milk bottles).
Refuse Derived Fuel	Fuel source utilising either loose combustible waste eg shredded paper and plastics, or that waste compressed into pellet form. Other refuse derived fuels include those based on rice husks, sawdust and straw.
Regional Planning Guidance Notes (RPGs)	Government Policy Statements of a regional context to be taken as material considerations, where relevant, in deciding planning applications.
Restoration	Takes place after operations for the disposal of waste have been completed, the process of using any or all of the following: subsoil, topsoil and soil-making material.
RIGS	Regionally Important Geological Sites. These comprise sites of educational, research and aesthetic importance. The RIGS scheme is promoted by English Nature and is organised locally by the Notts Wildlife Trust, with representations from Local Planning Authorities,

	British Geological Survey and other relevant organisations.
SINC	Site of Importance for Nature Conservation as identified by Nottinghamshire Biological and Geological Records Centre as biological and geological sites graded into two categories according to their degree of importance. All these designated sites are non-statutory and are subject to guidance in PPG9 on Nature Conservation.
SSSI	A Site of Special Scientific Interest is defined under Section 28 of the 1981 Wildlife and Countryside Act as an area of land of special interest by reason of its flora, fauna, geological or physiographical features. English Nature is responsible for the selection of SSSIs.
Saturated Zone	Zone of aquifer where all fissures and pores contain water, i.e. below the water table.
Scheme of Treatment	Is a detailed programme of proposed archaeological investigation and/or mitigation, submitted by a developer as part of a planning application.
Secondary and Recycled Aggregates	Mining, industrial and power station waste by-products and processed construction and demolition wastes, used for construction purposes. These include china clay sand, colliery minestone, slate wastes, power station ashes and blast furnace slags, concrete, brick, and asphalt road planings.
Sewage Sludge	The residue produced at a sewage treatment works that is not discharged with the treated effluent. This includes the sludge resulting from the treatment of raw sewage and waste from septic tanks and cesspools.
Site Licence Application	An application made under the Environmental Protection Act 1990 to keep, treat or dispose of waste material. A licence cannot be granted until planning permission for the development has been granted.
Soakaway	System for allowing water or effluent to soak into the ground, commonly used in conjunction with septic tanks.

Special Area for Conservation — Is intended to protect the habitats of threatened species. The aim is to contribute to biodiversity through the conservation of natural habitats, wild fauna and flora of European Community importance.

Special Waste — Is defined in the Special Waste Regulations 1996 using the European waste catalogue and waste characteristics. A list of European Hazardous Wastes and the hazardous properties can be found in the DETR's Circular 6/96

Strata — Layers of rock, including unconsolidated materials such as sand and gravels.

Sustainable Development — Development which is sustainable is that which can meet the needs of the present without compromising the ability of future generations to meet their own needs.

Tonnes — 1 Tonne = 1,000 Kg or 2,204 lb (0.984 tons)

Totter — Person employed at a waste site to sort and separate out any material which may be recycled or re-used.

Waste — Is the wide ranging term encompassing most unwanted materials. It is subdivided into several classes, defined by the Control of Pollution Act 1974. Waste includes any scrap material, effluent or unwanted surplus substances or article which requires to be disposed of because it is broken, worn out, contaminated or otherwise spoiled. Explosives are excluded.

Waste Management Facilities — All facilities for the treatment, management and disposal of waste. To include household waste recycling centres, mini-recycling centres, material recovery facilities, incinerators, commercial composting sites, waste transfer stations, landfill sites, scrapyards, landspreading, recycling facilities, pyrolysis and gasification plants and sewage treatment works.

Waste Transfer Station — A site to which waste is delivered for sorting prior to transfer to another place for recycling treatment or disposal.

Water Table — Top surface of the saturated zone within the aquifer.

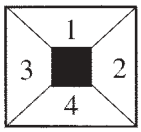
Note about changes to Government Departments

Since the text for this plan was originally drafted, there have been a number of changes to Government Departments. The planning functions of the former Department of the Environment, Transport and the Regions (DETR) have now been transferred to the Department of Transport, Local Government and the Regions (DTLR). The functions of the former Ministry of Agriculture, Fisheries and Food (MAFF) are now incorporated in the Department of Environment, Food and Rural Affairs (DEFRA).

Part 1 - General

CHAPTER 1

INTRODUCTION



A wide range of wastes are produced in Nottinghamshire every year. Examples shown above comprise (1) construction and demolition waste, (2) pulverised fuel ash from coal fired power stations (shown here infilling sand and gravel lagoons), (3) household waste and (4) scrap vehicles.

THE NEED FOR A WASTE LOCAL PLAN

1.1 The United Kingdom, like other modern industrial economies, produces large quantities of waste. An estimated 435 million tonnes of solid waste are generated in the UK each year. This mainly comprises construction, industrial, mining and quarrying and agricultural wastes. Households are responsible for around 20 million tonnes, equivalent to one tonne of waste per household. A more detailed breakdown of national waste arisings is given in Table 1.1.

1.2 Most of this waste is taken directly for disposal as this often represents the cheapest option due to the availability of sites with relatively few constraints. This has generally discouraged re-use, recycling and treatment initiatives. Additionally, markets for re-used and recycled waste materials are often uneconomic or poorly developed.

TABLE 1.1 UNITED KINGDOM – ESTIMATED TOTAL ANNUAL WASTE ARISINGS BY SECTOR

(VALUES GENERALLY RELATE TO 1990)

Sector	Annual arisings (million tonnes)	% of total arising
Households	20	5
Commercial Waste	15	3
Construction and Demolition	70	16
Other Industrial Waste	70	16
Sewage Sludge	35	8
Dredged Spoils	35	8
Mining and Quarrying Waste	110	25
Agricultural Waste	80	18
TOTAL ALL WASTE	435	100

Source: Making Waste Work - A Waste Strategy for England & Wales (DoE 1995)

1.3 However, recent environmental controls[1] have placed greater restrictions on the location of acceptable sites which will be able to meet future disposal requirements. In addition, volumes of some types of waste have grown rapidly in recent decades. This includes non-degradable products, such as plastics, and harmful chemicals, which can contaminate land. The need for a planned and more sustainable approach to waste management is becoming ever more urgent.

1 *The Environmental Protection Act, 1990.*

1.4 One of the most important objectives of this plan is to promote a strategy which helps reduce the dependency on disposal as a waste management option. However, such a strategy is unlikely to secure fundamental changes in the short to medium term, and large quantities of waste will still require disposal during the Plan period. A parallel objective is to ensure a reasonable balance is struck between meeting the demand for new waste management sites and the need to protect and enhance the environment. The Waste Local Plan process also provides an opportunity for public consultation. Chapter 2 sets out the Plan's Strategy in more detail.

TABLE 1.2 UNITED KINGDOM - ESTIMATED DISPOSAL ROUTES FOR WASTE SECTORS WHERE DATA IS AVAILABLE

Sector	Landfill %	Incineration %	Recycled/ Reused	Other %
Household	90	5	5	0
Commercial	85	7.5	7.5	0
Construction and Demolition	63	0	30	7
Other Industrial	73	1	18	6
TOTAL - ABOVE SECTORS	70	2	21	7

Source: Making Waste Work - A Waste Strategy for England & Wales (DoE 1995)

ROLE OF PLAN IN DETERMINING PLANNING APPLICATIONS

1.5 The Waste Local Plan will therefore represent the primary guidance, and the starting point for the assessment and determination of waste management planning applications. The policies in the Plan are, however, not prescriptive and other material considerations, if there are any, must also be taken into account. Material considerations may, for example, include future changes in Government guidance, or exceptional circumstances which individual policies in the Plan could not reasonably have allowed for. A fundamental principle is that applications for development should be allowed, having regard to the development plan and all material considerations, unless the proposed development would cause demonstrable harm to interests of acknowledged importance. This approach is in accordance with PPG1[2] and current legislation[3].

2 *Planning Policy Guidance Note No.1 - General Policy & Principles, February 1997.*

3 *Town and Country Planning Act 1990 - Section 54A (as inserted by Section 26 of the Planning & Compensation Act 1991).*

TABLE 1.3 WASTE PRODUCTION AND CURRENT MANAGEMENT PRACTICES IN NOTTINGHAMSHIRE

CATEGORY		DEFINITION AND MAIN SOURCES	WASTE MANAGEMENT PRACTICES
COLLIERY SPOIL		Waste shale and rock brought to surface as a result of underground coal-mining	Most is tipped on land close to the pithead.
POWER STATION WASTE	POWER STATION ASH	Comprises pulverised fuel ash (PFA) and furnace bottom ash (FBA) from the four Trent Valley Power Stations.	All FBA and an estimated one third of PFA used as a secondary aggregate. Remainder of PFA used mainly to infill sand and gravel workings or surface tipped near the Power Station.
	DESULPHO-GYPSUM	By-product of the flue gas desulphurisation plant at Ratcliffe-on-Soar Power Station. This reacts limestone with sulphur dioxide to produce gypsum and carbon dioxide.	Most is sold as a gypsum substitute for plasterboard manufacture, but some, including residues, requires disposal.
CONSTRUCTION AND DEMOLITION WASTE		Comprises brickwork, excavated materials, masonry, hardcore, pipe-work, timber and rubble from construction and demolition projects.	Most to disposal sites, some used as a secondary aggregate.
INDUSTRIAL WASTE		Includes materials such as paper, card, plastic, wood, metal, tyres, canteen waste, oils, batteries, hazardous and clinical wastes from industrial activities.	Most to disposal sites, some incinerated and some recycled.
HOUSEHOLD WASTE		Waste foodstuffs, paper, glass, metal, plastic and textiles from households, hospitals, schools, residential homes and similar establishments.	Most to disposal sites, some incinerated, small amount recycled.
COMMERCIAL WASTE		Waste materials from premises used for trade, business, sport, recreation or entertainment.	Most to disposal sites, some incinerated, small amount recycled.

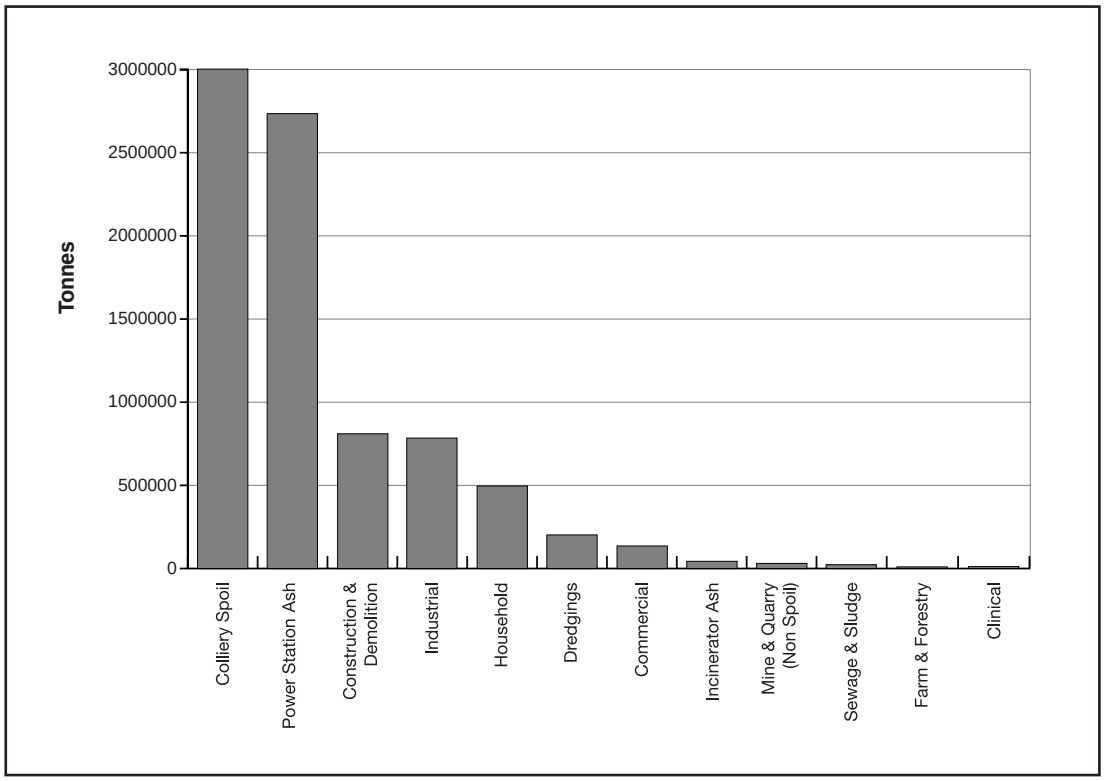
Table 1.3 contd....

CATEGORY	DEFINITION AND MAIN SOURCES	WASTE MANAGEMENT PRACTICES
RIVER AND CANAL DREDGINGS	Gravels, sands, silts and clays dredged from water-courses to maintain channel profiles. The River Trent is the main source.	Most spread on land adjacent to water courses, some disposed in sand and gravel workings. Also used as a secondary aggregate.
INCINERATOR ASH	Residue from the incineration of waste. Majority from Eastcroft Incinerator, Nottingham.	All to disposal sites
MINE AND QUARRY WASTE (excluding spoil/overburden)	Includes canteen wastes, oils, scrap metal and batteries derived from mineral extraction industries.	Most disposed of, or treated, recycled, incinerated.
SEWAGE SLUDGE	Sludge from the treatment of raw sewage and waste from septic tanks and cesspools.	Most is treated and either spread upon or injected into agricultural land. Some is exported to landfill/raise sites outside of the County.
FARM AND FORESTRY	General wastes from farms including animal slurry, scrap metal, polythene bags, and timber.	Animal slurry is spread on agricultural land. The scrap metal is usually recycled, the remainder is disposed of.
CLINICAL WASTE	Human/animal and other waste material from hospitals, nursing homes, veterinary surgeries and similar establishments, which presents risk of infection and may be hazardous to persons coming into contact with it.	All clinical waste is incinerated, often after collection via special transfer stations.
LOW LEVEL RADIOACTIVE WASTE	Low level radioactive waste from hospitals and industry.	All is exported to specially licensed disposal sites outside the County.
SPECIAL WASTE	Waste from any of the above categories which presents a specific hazard to health and may require special treatment and disposal.	Most is exported to incinerators outside of County. Some treated and recycled.

WASTE PRODUCTION AND MANAGEMENT PRACTICES IN NOTTINGHAMSHIRE

1.6 Nottinghamshire produces approximately 8 million tonnes of waste each year (see Fig 1.1). Colliery spoil and power station waste account for over two thirds of this figure. Other major sources include dredgings, construction, demolition, industrial, household and commercial wastes, incinerator ash and sewage sludge. A more detailed breakdown of waste arisings in Nottinghamshire and current management practices is given in Table 1.3.

Figure 1.1 Nottinghamshire - Annual Waste Arisings



Source - Waste Management Statement NCC 1996.

1.7 Current waste management practices in Nottinghamshire generally reflect the national picture of a heavy reliance on disposal, although, as Table 1.3 indicates, there is wide variation between waste categories. For example, approximately 11% of household, commercial and industrial waste is incinerated and a significant proportion of power station ash is recycled as a secondary aggregate or cement additive. Most clinical waste is incinerated, and agricultural wastes are often spread on land as a fertiliser.

1.8 It should be noted that the management of colliery spoil is considered in the Minerals Local Plan (see Para 1.13). Future requirements for colliery spoil disposal will not therefore be subject to proposals in the Waste Local Plan. However, the Plan does consider the role of colliery tips as potential reception sites for the disposal of other wastes (see Chapter 10).

POLICY CONTEXT

National

1.9 To date there is no comprehensive national plan setting out planning policies for waste development. However, the Government's strategic approach towards sustainable development and waste management is contained in a series of important documents which form the basis of the waste management strategy set out in Chapter 2.

1.10 Advice on statutory provisions and Government Policy is available in the form of Planning Policy Guidance Notes (PPGs). Other useful advice on waste management issues is contained within Minerals Planning Guidance Notes (MPGs), and guidance from the Environment Agency.

Regional

1.11 Regional Planning Guidance for the East Midlands (RPG8) was published by the Department of the Environment in 1994. Its main aim is to provide a framework for up-dating Structure Plans within the Region. This guidance considers waste, pollution, renewable energy and water issues. Where appropriate, this guidance should be reflected in Local Plan Policies. Waste is an important issue for debate within the Regional Forum which comprises the constituent Local Authorities. Work is underway to prepare updated Regional Guidance up to the year 2021. A Public Examination of the Draft Guidance was held in June 2000 and the final guidance is expected to be published in 2002.

Local

1.12 The Nottinghamshire Structure Plan Review adopted in November 1996 provides the strategic framework for all Local Plans in the County. Nottingham City Council's Local Plan was adopted in October 1997. It provides the framework for land use planning in the City, but does not include any specific policies covering waste. Both Plans are in the process of being reviewed by the Councils.

1.13 The Nottinghamshire Minerals Local Plan (Adopted November 1997) is the first Local Plan covering the entire range of mineral extraction in the County. It examines the main environmental issues associated with mineral working proposals, many of which will be relevant when considering waste disposal development. In particular, it addresses issues relating to the production of mineral wastes and the use of waste in reclaiming mineral voids.

1.14 The Nottinghamshire Green Belt Local Plan, approved in 1989, protects the Green Belt around Nottingham from inappropriate development. Therefore, it has important implications for the location of future waste management facilities in the Greater Nottingham area. The Plan is gradually being replaced by District-wide Local Plans as they become adopted.

1.15 There are four other relevant non-statutory plans to which the County Council contributes.

(a) Sherwood Study: A Vision for Sherwood Forest (October 2000);

(b) The Strategic Plan for Greenwood (September 2000);

(c) Nottinghamshire Local Biodiversity Action Plan (1998);

(d) Nottinghamshire Landscape Guidelines (1998).

1.16 The City and District Councils produce local plans, which have either been adopted or are in the course of preparation. All contain policies about their local environment and some have addressed local waste issues. Where appropriate, these policies will be taken into account in the Waste Local Plan.

1.17 The policies and proposals of these plans will be taken into consideration in determining all future planning applications for waste management facilities.

1.18 Nottinghamshire County Council, and all the District Council's are working together to prepare an 'Integrated Waste Management Strategy' for the County. A separate, but complementary, strategy is being prepared by the City of Nottingham. Both strategies will consider the full range of policy and strategic issues in respect to the management of municipal waste in Nottinghamshire. This will include existing operational and financial arrangements for waste minimisation, waste collection, recycling, composting and disposal as well as considering new arrangements which could be introduced to promote initiatives higher up the waste management hierarchy. These considerations will drive the formation of the new City and County Council strategies, which will, in turn, feed into the review of the Waste Local Plan which will identify and consider the land use implications.

THE COUNTY AND CITY COUNCIL'S ROLE IN WASTE PLANNING

1.19 In April 1998, Nottingham City Council became a unitary authority and consequently the Waste Planning Authority (WPA) for that part of the County. The County Council is the WPA for the remainder of the County. The City and County Councils are jointly promoting the Waste Local Plan and are responsible for the determination of planning applications for waste management in their respective areas.

1.20 The Waste Regulation Authority (WRA) is the Environment Agency, although this function was formerly carried out by the County Council. The WRA is responsible for providing advice and information to the Secretary of State for the Environment, Transport and the Regions. The Agency is therefore preparing a series of Strategic Waste Management Assessments which will collate data on a regional basis. These statements will replace the Waste Disposal Plans previously prepared by the old regulation authorities, although these remain the relevant technical advice in the interim. In Nottinghamshire's case the "Waste Management Statement" 1996 provides such technical information. In addition, the Strategy for Sustainable Waste Management in the City of Nottingham 1997 - 2000 sets out the City Council's approach to waste management.

1.21 The Waste Local Plan has been prepared under the Town and Country Planning Act 1990, as amended by the Planning and Compensation Act 1991, and in accordance with the Nottinghamshire County Council Local Plan Scheme. In addition to the Environment Agency, the County Council liaises with other organisations with responsibility for waste management related matters. For example, the control of nuisance from noise and dust may involve the relevant District Council's Environmental Health Department. The Waste Local Plan sets the land use planning framework. The Integrated Waste Management Strategy, described above, will assess waste management options and contractual criteria for the management of municipal waste.

CONTENT, FORMAT AND TIMESCALE

1.22 This Local Plan comprises a Written Statement and a Proposals Map with insets. The Written Statement is divided into two parts. Part 1 sets out the strategy of the Plan and the general principles and policies applicable to all types of waste facilities in the County. Part 2 considers the options for managing waste, the need for future waste management facilities and sets out proposals to meet that demand over the Plan period.

1.23 The base date for the Plan is 1st January 1995 and the Plan period extends 10 years to 31 December 2004. Proposals must conform generally to the Structure Plan Review. Normally, only those developments which are expected to commence during the Plan period should be formulated as proposals. However, in view of the special circumstances of waste development, particularly where large capital investment is needed, the Plan will, as appropriate, look beyond this timescale.

ENVIRONMENTAL APPRAISAL OF DEVELOPMENT PLANS

1.24 Environmental appraisal is an important instrument in the preparation and review of development plans. PPG 12 'Development Plans'[4] sets out that an environmental appraisal should apply to all types of plan, policies and proposals and is an integral part of plan making and review. An environmental appraisal can be defined as a process of identifying, quantifying, weighing up and reporting on environmental effects of policies and proposals. Further details of the procedures are set out in the Department of the Environment's Good Practice Guide[5].

1.25 A retrospective environmental appraisal was carried out on the Consultative Draft Waste Local Plan and was integral to the preparation of the Deposit Draft Waste Local Plan.

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4 *Planning Policy Guidance Note No. 12 'Development Plans' 2000*

5 *DOE 'Environmental Appraisal of Development Plans: A Good Practice Guide'. 1994. HMSO*

MONITORING AND REVIEW

1.26 The Waste Local Plan has been prepared on the basis of the best information available at the present time. Some of this information may be imprecise. For example, most waste is not normally weighed as it arises but may be weighed at the disposal site. In addition some wastes dealt with by other methods such as garden bonfires are difficult to estimate.

1.27 One of the biggest problems of planning ahead is future uncertainty. It is difficult to forecast with any precision when certain developments will take place or when schemes will be completed. Changing economic conditions will have an important bearing on the rates of construction and industrial waste generation, and the viability of incinerating and recycling waste materials. Monitoring of the situation is therefore essential in order to ascertain whether policies are being implemented as envisaged and to assess future needs.

1.28 Circumstances which have to be closely monitored include:-

(a) changing legislation, national and regional policies and European Community directives, together with the effect of waste policies adopted by other local authorities;

(b) changes in the arisings of waste, both regionally and locally, including the recycling and re-use of waste materials;

(c) the impact of tax penalties on landfilling and tax incentives or credits upon the levels of recycling or incineration;

(d) the availability of new information regarding the different options for waste disposal and treatment;

(e) changes in waste disposal, treatment, recycling and transport costs;

(f) the number and volume of sites for waste disposal, transfer and treatment with planning permission;

(g) the performance of operators in complying with conditions attached to planning permissions;

(h) changes in public and political attitudes and perceptions, in particular regarding environmental issues;

(i) changes in the designation and significance of the competing land-uses and resources, for example, nature conservation and recreational uses.

1.29 Future reviews of the Plan will allow the above changes to be accommodated, as appropriate.

CHAPTER 2

A STRATEGY FOR SUSTAINABLE WASTE MANAGEMENT

The main strategy of the Plan is to reduce the current dependence on disposal and encourage more sustainable options for managing waste. These include recycling, incineration and composting. This conforms to the Government's strategy, as set out in "This Common Inheritance", "Sustainable Development the UK Strategy" and "Waste Strategy 2000".

INTRODUCTION

The Rio Earth Summit

2.1 In 1992, the United Nations Conference on Environment and Development, the "Earth Summit", was held at Rio de Janeiro, Brazil. This was in response to growing concerns about the impacts of human activity, both on our own quality of life and on the ability of the planet to sustain us and other species.

Local Agenda 21

2.2 At Rio, over 150 nations, including the UK, endorsed a document called Local Agenda 21, which sets out how countries can work towards sustainable development. Sustainable development can be defined as "development which meets our needs without compromising the ability of future generations to meet their needs". Sustainable development seeks to integrate environmental, economic and social factors with a strong community consensus.

2.3 Actions to achieve sustainable development on a local level forms a key part of the overall strategy. The part of the strategy aimed at the role of local authorities in collaboration with the community is called Local Agenda 21.

2.4 The County and City Councils are committed to the principle of sustainable development[1]. The main strategy of this Plan is to reduce the current dependence on disposal and encourage more sustainable options for managing waste. These include recycling, incineration and composting. This conforms to the Government's strategy built on the principles of Local Agenda 21[2].

THE GOVERNMENT'S STRATEGY

2.5 Government policy on sustainable development is set out in “A Better Quality of Life - A Strategy for sustainable development for the United Kingdom” (May 1999). This document looks at all levels of environmental concern and highlights the importance of adopting strategies for sustainable development. Building on this principle, policy on waste management is given in the new national waste strategy, ‘Waste Strategy 2000’. This sets wide-reaching targets for reducing the proportion of controlled waste going to landfill and the contribution to be made by alternative methods of waste management including reduction, recycling, composting and energy recovery. These targets are designed to meet the stringent requirements of the European Landfill Directive[3] . The Strategy confirms a change to the waste hierarchy, signalled in draft versions, by further tiering the ‘recovery’ category to give preference to the recovery of materials over energy recovery where practical.

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1 *Responding to Rio, NCC 1997.*

2 *Making Waste Work, “A Strategy for Sustainable Waste Management in England and Wales”, HMSO 1995.*

3 *Council of the European Union Directive on the Landfill of Waste (1999/31/EC).*

2.6 Guidance on waste management issues is given in PPG10 "Planning and Waste Management"[4] which replaces waste management guidance formerly contained in PPG23 "Planning and Pollution Control". The remaining pollution control elements of PPG23 are currently under review and may be of general relevance to planning controls over waste management facilities. RPG8 sets out the regional position and is currently being reviewed with revised guidance expected in 2002.

2.7 PPG 10, paragraph 17, sets out the need for regional self sufficiency in waste management and disposal, and provides guidance on setting up Regional Technical Advisory Bodies (RTABs). More detailed advice on their role is given in Annex B. These Bodies should advise existing Regional Planning Boards (RPBs) by assembling relevant data and providing advice on options and strategies for dealing with the waste that needs to be managed within each region.

2.8 The above documents are material considerations in the drawing up and implementation of this Plan's Strategy. The weighting they are given depends on the stage of preparation and adoption, in accordance with guidance in PPG 1.

THE PLAN'S STRATEGY - 4 KEY OBJECTIVES

2.9 Four main objectives to achieve sustainable development can be identified. These are: protecting the environment; using resources efficiently; controlling pollution and increasing public awareness and involvement.

A. PROTECTING THE ENVIRONMENT

2.10 Protection of the environment can be achieved by the planning system and other controls and incentives. The Waste Local Plan can aid the protection of the environment by:

(a) directing harmful development away from sensitive areas, such as the Green Belt, vulnerable aquifers, floodplains, ground and surface water, residential areas, the historic built environment, designated wildlife and nature conservation sites (including Sites of Importance for Nature Conservation) and other areas of land, watercourses, wetlands and lakes supporting important habitats and species;

(b) minimising the impact upon people and the environment by limiting noise and light disturbance, for example, by controlling the hours of working;

(c) minimising the impact on the surrounding environment and local landscape, for example, by the requirement for landscape treatment previously agreed during the planning application process;

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4 *Planning Policy Guidance Note 10 'Planning and Waste Management' 1999.*

(d) minimising environmental pollution, for example, through legal agreements over the long-term monitoring of landfill gas and leachate;

(e) requiring proper reclamation of disposal sites, for example, by requiring progressive reclamation, and ensuring suitable after-uses;

(f) minimising the consumption of materials and energy by promoting and encouraging waste reduction, re-use and recycling, and by encouraging the use of alternative forms of transport and minimising the numbers of journeys by road, where this represents the Best Practicable Environmental Option.

2.11 Chapters 3 and 4 of this Plan give detailed land-use policies in relation to environmental protection and reclamation. This includes policies on matters such as noise, visual impact, protection of aquifers, transport, nature conservation, archaeology, phasing, landfill gas, after-use, aftercare and a range of other important issues. Chapters 5 - 10 contain policies which identify areas of search, allocations and criteria for assessing future waste management proposals. These policies should also direct development away from sensitive areas.

2.12 This approach accords with government advice given in PPG 10. This states that where new or replacement facilities are proposed, preferred locations should be identified. Where specific locations are not known, waste local plans should identify 'areas of search' within which waste management facilities might be acceptable on planning grounds, or criteria against which applications can be considered. PPG 10 states that the identification of specific sites is the best way that the planning system can make provision for future waste management facilities, but, if this is not possible, waste local plans should justify why this approach has not been followed. The allocation of sites and the identification of areas of search will aid the establishment of an "integrated and adequate network of waste disposal plants" (Paragraph 9, EU Landfill Directive).

B. EFFICIENT USE OF RESOURCES

Hierarchy of Waste Management Options

2.13 The efficient use of resources can be achieved by using raw materials prudently, increasing energy efficiency, recycling and reducing waste at source. The Government's strategy for sustainable waste management is based upon a hierarchy of preferred options (see Table 2.1).

2.14 The primary goal is to reduce waste at source. Priority should be given to minimising the hazardous components of waste, and certain hazardous materials may need to be eliminated entirely from the waste source. Waste can be reduced by altering established practices, for example, by reducing excessive packaging of supermarket goods. Treatment can also reduce both the quantity of waste and level of hazardous materials.

TABLE 2.1

HIERARCHY OF WASTE MANAGEMENT OPTIONS

- REDUCTION
- RE-USE
- RECOVERY

  Recycling, Composting, Energy Recovery
- DISPOSAL

Source – Waste Strategy 2000 (DETR)

N.B. Waste Strategy 2000 indicates that, within the recovery category, proposals for incineration are not expected to be considered before recycling and composting options have been considered.

2.15 The secondary goal is re-use, for example re-treading tyres or re-using bottles. The tertiary goal of recovery can also bring significant environmental benefits, through materials recycling, composting, and energy recovery from waste, for example through combined heat and power incinerators or the utilisation of landfill gas to produce heat and electricity (see Glossary for definitions). None of these are automatically preferred to any other, although government does not expect incineration with energy recovery to be considered before opportunities for recycling and composting have been explored.

2.16 At the bottom of the hierarchy is disposal, as the least attractive waste management option. The emphasis here must be on ensuring that disposal achieves high environmental standards, and that other benefits are achieved, for example by reclaiming mineral voids and returning land to beneficial use, and the utilisation of landfill gas to produce heat and electricity.

2.17 Waste Strategy 2000 advises that the waste hierarchy should guide waste policy but will not always indicate the most sustainable option for particular waste streams. It is important to recognise that all the waste hierarchy options have a place in a sustainable waste strategy and that landfill, although at the bottom of the hierarchy, is still considered to be a sustainable waste management option. For example, landfill can bring environmental benefits to derelict or degraded sites as described above.

2.18 Structure Plan Review Policy 12/1 provides strategic guidance in relation to the hierarchy of waste management options. The role of the Waste Local Plan is limited in its ability to alter established practices which generate waste. For example, measures to reduce or recycle packaging would require government legislation. The Plan cannot force waste management companies to provide alternative facilities to disposal, nor can it make industry and the public reduce the quantity and type of waste they generate. However,

the Waste Local Plan has an important role in promoting the waste management hierarchy including reduction, recycling, re-use, recovery and disposal, and by making adequate provision for a full range of facilities. This can be achieved through consultation with the public by the County, City and District Councils, and through providing a sound and sustainable approach to the elements of waste planning that the Plan can influence.

2.19 An important role of the Plan is to indicate that permission will only be granted for waste management proposals which represent the most sustainable options judged against the hierarchy of waste management options, the 'Best Practicable Environmental Option' and the 'Proximity Principle' as set out below.

Best Practicable Environmental Option

2.20 The waste management hierarchy is an overall guiding principle but it would be too simplistic to assess proposals solely against their function and position within this hierarchy. For example, it would be counter productive to recycle waste if doing so had greater impact on the environment than disposal. A sensible decision on whether to recycle must take account of many factors, including the availability of raw materials, the energy consumption in collecting and processing, and the effect of releases to land, water and air. This can be achieved through appraisal of the proposal by using the 'Best Practicable Environmental Option' (BPEO) principle.

2.21 BPEO was defined by the Royal Commission on Environmental Pollution as *"the outcome of a systematic consultative and decision making procedure which emphasises the protection and conservation of the environment across land, air and water. The BPEO procedure establishes, for a given set of objectives, the option that provides the most benefit or least damage to the environment as a whole, at acceptable cost, in the long term as well as in the short term [5]".*

The Proximity Principle

2.22 Government guidance in relation to the "proximity principle" is given in PPG10. This guidance states that "Waste should generally be managed as near as possible to its place of production, because transporting waste itself has an environmental impact". This leads to a more sustainable system of waste management. Waste creators are encouraged to take more responsibility, first by requiring them to consider the effects of managing and disposing of the waste they create, and secondly, to avoid the environmental implications of transporting waste over long distances wherever possible. If it is not feasible to provide a management facility near to the waste source, then a more environmentally acceptable form of transport, such as rail or water transport should be used where it is economically feasible.

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5 *Royal Commission on Environmental Pollution 12th Report, Best Practicable Environmental Option, Cmd 310; DoE 1988.*

~~**POLICY W2.1**~~

~~**WASTE MANAGEMENT PROPOSALS WILL ONLY BE PERMITTED WHERE THEY REPRESENT THE BEST PRACTICABLE ENVIRONMENTAL OPTION, BASED ON A HIERARCHY WITHIN WHICH THE ORDER OF PREFERENCE IS:**~~

~~**• REDUCTION**~~
~~**• RE-USE**~~
~~**• RECOVERY – COMPOSTING & RECYCLING**~~
~~**• RECOVERY – ENERGY FROM WASTE**~~
~~**• DISPOSAL WITH ENVIRONMENTAL BENEFITS**~~

Regional Self-Sufficiency

2.23 PPG 10 states that most waste should be treated or disposed of within the region in which it is produced. It also recognises that waste management solutions, in accordance with BPEO principles, may sometimes need to cross WPA or regional boundaries, and that, in some circumstances, acceptable options for the local management of some types of waste may not be available. In Annex B, the Guidance Note provides detailed advice on the question of developing regional strategies for waste management and the role of Regional Technical Advisory Bodies.

2.24 RPG8 also advises that increasing amounts of waste will be produced in the region and that Structure and Waste Local Plans should identify sufficient sites or areas of search to meet demand. Waste disposal is presently the main method of dealing with the Region's waste. However, other options, such as incineration, should also be considered.

2.25 In accordance with the above advice, the Waste Local Plan considers the need for adequate numbers and geographical spread of facilities for recycling, recovery, treatment, waste transfer stations and waste disposal in Nottinghamshire (see Chapters 5-10) and makes future provision in the form of small areas of search, allocations and criteria. The Plan also identifies areas where a shortfall of permitted waste disposal capacity exists.

C. CONTROLLING POLLUTION

2.26 Pollution, such as atmospheric emissions and water contamination, can be controlled through effective regulation and clear standards. The Environment Agency (see Para 1.20) is the main body responsible for achieving this objective.

2.27 Whilst pollution controls fall outside the scope of the Waste Local Plan, the Plan does contain policies which take account of the environmental pollution impacts associated with waste management (see Chapter 3).

D. PUBLIC AWARENESS & INVOLVEMENT

2.28 Encouraging greater public involvement and making information available is an important factor in implementing the Plan. The Waste Local Plan has a key role to play, because it is a public document and sets out the future of waste management for Nottinghamshire. As part of the Plan's consultation stages, the public has the right to comment and make representations on proposals in the Plan, which as a result may be modified.

2.29 The Plan cannot, however, achieve more sustainable waste management on its own. If waste reduction, re-use and recycling are to increase, public education and commitment will be essential at all levels. This includes promotion and consultation by the Government, Local Authorities, the Industry and other organisations, as well as a change of attitude by the public towards waste management. Major fiscal and regulatory changes would also be required.

CHAPTER 3

ENVIRONMENTAL PROTECTION

Constructing tipping cells and laying impermeable synthetic liners at a non-inert Landfill Site. Such measures both prevent harmful leachates from escaping into any adjacent ground or surface water resources and allow any leachates to be monitored and periodically removed as required.

INTRODUCTION

3.1 Waste management, particularly disposal and incineration, frequently raises major concerns in relation to environmental pollution. For example, without proper controls, disposal of non-inert waste could seriously pollute ground waters. Other concerns include noise, dust and odour, visual impact, and traffic generation. Despite these problems, waste disposal can have environmental benefits; for example it may represent the only means to reclaim mineral workings back to an acceptable after-use.

3.2 The Nottinghamshire Structure Plan Review sets out the strategic land use policies which seek to protect the environment from the harmful effects of all types of development. In particular, Policy 12/1 provides a strategic framework to manage waste in an environmentally acceptable and sustainable manner. Other Policies relevant to waste management which give strategic guidance on environmental protection include Structure Plan Review Policies 3/1, 3/22, 10/2, 10/3, 11/1, 11/2, 11/4 and 12/3 and Policies ENV 1 to ENV 16 of the Nottingham Local Plan..

3.3 This chapter addresses the main environmental issues associated with waste proposals, with the exception of reclamation, which is considered separately in Chapter 4.

INFORMATION IN SUPPORT OF PLANNING APPLICATIONS

3.4 Developers are advised to discuss their proposals with the County or City Councils prior to the submission of an application. Such pre-application discussions help identify potential constraints and are encouraged in Government planning guidance[1].

3.5 Applications for waste management facilities should provide sufficient information to allow a balanced assessment to be made between the need for and possible advantages of the proposed development and the environmental disruption which may arise. A detailed list of the information required is set out in Policy W3.1, below:

POLICY W3.1

PLANNING PERMISSION FOR WASTE MANAGEMENT FACILITIES WILL NOT BE GRANTED UNLESS SUFFICIENT INFORMATION IS PROVIDED TO ENABLE A BALANCED ASSESSMENT OF ALL RELEVANT FACTORS. WHERE RELEVANT, SUCH INFORMATION SHOULD INCLUDE DETAILS OF:

(a) NEED FOR THE FACILITY;

(b) AN ASSESSMENT OF LANDSCAPE AND ECOLOGICAL IMPORTANCE;

(c) PRESENT USE OF THE SITE;

1 *Planning Policy Guidance Note No. 1 - General Policy and Principles, February 1997*

(d) SURFACE DRAINAGE AND HYDRO-GEOLOGY;

(e) GEOLOGY;

(f) ESTIMATED LIFE OF OPERATIONS AND RATE OF IMPORTATION;

(g) TYPES OF WASTE MATERIAL;

(h) OPERATIONAL DETAILS;

(i) LAYOUT AND DESIGN OF BUILDINGS AND OPERATIONAL AREAS, INCLUDING HAUL ROADS;

(j) SOIL SURVEY AND SOIL CONSERVATION MEASURES;

(k) TRANSPORTATION ARRANGEMENTS, INCLUDING ACCESS, TRAFFIC GENERATION AND ROUTEING;

(l) HOURS OF OPERATION;

(m) EMPLOYMENT IMPLICATIONS;

(n) MEASURES TO MINIMISE POLLUTION AND ENVIRONMENTAL DISTURBANCE;

(o) IMPACT ON EXISTING AND ADJACENT LAND USES;

(p) AN ASSESSMENT OF ARCHAEOLOGICAL REMAINS AND HISTORIC FEATURES AND MEASURES FOR THEIR PRESERVATION AND RECORDING;

(q) IMPACT UPON PUBLIC RIGHTS OF WAY;

(r) PROPOSED LANDSCAPING MEASURES AND BOUNDARY TREATMENT OF THE SITE AND THEIR LONG TERM MANAGEMENT;

(s) INTEGRATED OPERATIONAL AND RECLAMATION SCHEME;

(t) AFTERCARE;

(u) AFTER-USE;

(v) LONG-TERM MANAGEMENT PROVISIONS.

3.6 The main environmental issues noted in Policy W3.1 are considered in more detail in the remainder of this Chapter, or, in the case of reclamation issues, in Chapter 4. Issues relating to different waste management options and types of waste, including 'need', are considered in Chapters 5-10 of the Plan.

Environmental Impact Assessment

3.7 Where proposals are likely to have a significant environmental impact, the WPA can require an "Environmental Impact Assessment" (EIA) in accordance with Government Regulations[2] and Guidance[3].

3.8 These regulations set out the criteria for determining the scope and need for an EIA. Proposals for the treatment and disposal of special waste require an EIA. Proposals for the incineration or chemical treatment of non-hazardous waste with a capacity exceeding 100 tonnes per day will also require an EIA. For other wastes, this would be at the discretion of the WPA, but only where there is the potential for significant environmental impact. In practice, most major waste management proposals are likely to require one. The main circumstances justifying an EIA are set out in Structure Plan Review Policy 3/I and Explanatory Memorandum paragraphs 3.81 – 3.84.

3.9 Pre-application discussions with the WPA are advised to establish whether an Environmental Statement is needed and, if so, which issues are most important.

PLANNING CONDITIONS AND OBLIGATIONS

3.10 When planning permission is granted, a comprehensive set of conditions is normally attached to ensure the satisfactory operation and reclamation of the site. The information required under Policy W3.1 forms an important basis for considering what detailed conditions and other legal controls are required. Further guidance is provided in the text and policies of this Plan.

Planning Conditions

3.11 Planning conditions are used to control how a development takes place, and normally most matters can be adequately covered. Broadly, conditions can only relate to the use of land and are imposed in order to allow development where it would otherwise be refused. General guidance on the use of conditions is contained within Circular 11/95[4], and PPG1. The WPA has powers to enforce compliance with planning conditions and to control unauthorised development, where appropriate.

3.12 The dividing line between planning and pollution controls is not always clear cut, as explained in PPG 23 and PPG 10. In essence, the advice suggests that the potential for pollution is a "material consideration". Where it appears that a serious pollution risk cannot be ameliorated this might be a reason for refusal. However, if permission is granted, having taken pollution into account, the advice indicates that planning controls should not be used to address the causes of pollution risks where other controls (such as waste

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2 *Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999.*

3 *Environmental Impact Assessment - DETR Circular 02/99.*

4 *The Use of Conditions in Planning Permissions - DoE Circular 1/95.*

management licences) exist. It is important, therefore, that care is taken to ensure that the pollution issues are addressed by the appropriate legislation and at the appropriate time.

Planning Obligations

3.13 The WPA may also wish to control certain matters which lie beyond the legal scope of planning conditions. Such matters would normally be covered by planning obligations[5]. These comprise either legal agreements between the WPA, the applicant and any relevant third party, or unilateral undertakings made by the applicant. Circumstances where planning obligations may be sought include:

(a) the provision of off-site works such as highway improvements, landscape treatment and planting;

(b) where funding is required such as to facilitate archaeological works;

(c) where third parties are involved, such as in long-term management provisions;

(d) where there is a risk of damage to a designated site of nature conservation interest[6] or a protected species;

(e) where financial guarantees are exceptionally[7] required.

(f) to secure the delivery of Local Biodiversity Action Plan targets where relevant to the site.

~~POLICY W3.2~~

~~PLANNING OBLIGATIONS MAY BE SOUGHT AS A MEANS OF CONTROLLING OPERATIONS AND/OR THE LONG TERM MANAGEMENT OF SITES WHICH CANNOT BE ACHIEVED BY T~~THE USE ~~OF PLANNING CONDITIONS~~.

WASTE MANAGEMENT LICENCES

3.14 Under the Environmental Protection Act 1990, most waste treatment, transfer stations and disposal sites need to be licensed by the Environment Agency (the Waste Regulation Authority). In addition, the Environment Agency maintains a register of activities that operators notify are exempt from the requirement to hold a licence. The exempt activity most likely to require planning permission is a reclamation scheme. Waste management licences specify the exact nature and quantities of waste that may be dealt with and

5 DoE Circular 1/97
6 Planning Policy Guidance Note No. 9 - Nature Conservation, 1994 (See Para 28).
7 Examples of such exceptions are found in MPG7 (paras 94 and 95)

control public health, pollution and operational issues. A valid planning permission or "Certificate of Lawful Existing Use (CLEUD) or a Certificate of Lawfulness for a Proposed Use or Development (CLOPUD)"[8] is required before a licence can be issued.

VISUAL IMPACT

3.15 Waste management facilities often have a visual impact. Intrusive features can include weighbridges, chimney stacks, office accommodation, skip storage areas, fixed plant, operational and tipping areas and litter-trap fencing. Visual intrusion can be substantially reduced by careful site design particularly by consideration of the effect of the development on the skyline. Visual intrusion can also be reduced by taking account of existing natural screening features and local topography in the site design.

Plant and Buildings

3.16 The visual impact of plant, buildings and storage areas can be reduced by grouping them together or, where possible, placing them in excavated areas or upon low-lying land. Appropriate external cladding and colour of equipment, together with regular maintenance, can also help.

POLICY W3.3

WHEN PLANNING PERMISSION FOR A WASTE MANAGEMENT FACILITY IS GRANTED, CONDITIONS WILL BE IMPOSED TO ENSURE ALL PLANT, BUILDINGS AND STORAGE AREAS ARE:

(a) LOCATED IN SUCH A POSITION AS TO MINIMISE IMPACT ON ADJACENT LAND;

(b) WHERE PRACTICABLE, GROUPED TOGETHER TO PREVENT THE CREATION OF AN UNSIGHTLY SPRAWL OF DEVELOPMENT AND TO AID THEIR SCREENING;

(c) KEPT AS LOW AS PRACTICABLE TO MINIMISE VISUAL INTRUSION;

(d) OF APPROPRIATE COLOUR AND CLADDING OR OTHERWISE SUITABLY TREATED TO REDUCE THEIR VISUAL IMPACT;

(e) SATISFACTORILY MAINTAINED TO PRESERVE THEIR EXTERNAL APPEARANCE.

8 *The Planning & Compensation Act 1991, Section 10 introduced provisions for a "Certificate of Lawful Use or Development", whereby the lawfulness, for planning purposes, of an existing or proposed operation, use or activity on land can be determined. See also DoE Circular 17/92.*

Screening

3.17 Suitable landscape treatment, including tree planting and earth mounding, can help screen and reduce visual impact. Planting carried out several years in advance of the development increases the effectiveness of these measures. The incorporation of physical screening barriers such as walls or fences may also need to be considered. Nature conservation issues may, for example, influence what species are planted.

3.18 Priority should be given to the protection and maintenance of existing hedgerows and trees which screen the site. Protection of these features should be in place prior to the development, and be maintained until the final reclamation of the site. The landscape proposals will also need to include a management plan to indicate how existing vegetation, proposed off-site treatment and on-site landscape proposals will be maintained. For waste disposal schemes careful phasing of operations can also reduce visual impact.

POLICY W3.4

WHERE PLANNING PERMISSION FOR A WASTE MANAGEMENT FACILITY IS GRANTED, CONDITIONS WILL BE IMPOSED TO ENSURE THAT SCREENING AND LANDSCAPE PROPOSALS REDUCE VISUAL IMPACT. SUCH CONDITIONS MAY INCLUDE:

(a) MEASURES TO RETAIN, ENHANCE, PROTECT AND MANAGE EXISTING FEATURES OF INTEREST AND VALUE FOR SCREENING AND THEIR CONTRIBUTION TO THE RECLAMATION OF THE SITE;

(b) MEASURES TO SCREEN THE SITE BY THE USE OF WALLS, FENCES, EARTH MOUNDING AND/OR TREE AND SHRUB PLANTING;

(c) DETAILS OF METHOD OF WORKING, AND PHASING TO CAUSE LEAST VISUAL INTRUSION;

(d) DETAILS OF THE LOCATION, SIZE, SHAPE AND TREATMENT OF ANY TEMPORARY SOIL, OVERBURDEN, WASTE MOUNDS AND WASTE CONTAINER STORAGE AREAS;

(e) DETAILS OF THE LOCATION, FORM, NUMBER, SPECIES, SIZE, METHOD OF PLANTING, SITE PREPARATION AND ANY NECESSARY MEASURES FOR REPLACING PLANT MATERIAL WHICH FAILS FOLLOWING INITIAL PLANTING.

3.19 The above measures should also be considered in relation to reclamation and the long-term use of the site (see Chapter 4).

ENVIRONMENTAL POLLUTION AND HEALTH RISKS

3.20 Waste treatment and disposal operations have the potential for a wide range of environmental pollution, principally, water contamination, landfill gas generation, smell, litter, noise, vehicle emission, dust and mud. Legislation controlling these matters is contained within various Acts, notably the Environmental Protection Act 1990 which covers Waste Licensing (see Para 3.14). Other important legislation includes the Water Resources Act 1991, and the Water Industry Act 1991.

3.21 Local Planning Authorities should not duplicate controls which are the statutory responsibility of other bodies. Policies W3.5 to W3.10 complement the pollution control regime and are designed to prevent harm to interests of acknowledged importance, such as amenity (including residential amenity) and highway safety.

3.22 The main categories of pollution, their cause and ameliorative measures are considered below.

Water Resources

3.23 One of the most serious pollution threats to water resources is the disposal of non-inert waste in areas where groundwater is vulnerable and, in particular, catchments of boreholes used for potable supply. In Nottinghamshire, the main aquifers are classified by the Environment Agency as highly vulnerable and are the Sherwood Sandstone and the Magnesian Limestone, which together supply up to 80% of the County's drinking water (see Plan 3.1).

3.24 If uncontrolled, leachate[9] or spillage of waste could pollute an aquifer. Decontamination of groundwater is difficult, prolonged and expensive. Prevention of pollution is, therefore, essential. Waste sites can be lined and/or the surface capped with impermeable material to reduce the risk of pollution. However it is impossible, even with the best available technology, to make a disposal site completely leak proof and there will be certain areas where the risk to the aquifer is so great as to make waste disposal unacceptable.

3.25 Similar risks also apply to surface-water resources such as rivers, canals, streams, lakes and other wetland features. For example, run-off from operational areas may be contaminated with leachate. In addition, mud and silt carried by run off can clog up ditches and cloud larger water courses. Diverting drainage to settling lagoons which trap fine particles is usually the most effective remedy. Such discharges would require the prior consent of the Environment Agency under the Water Resources Act 1991.

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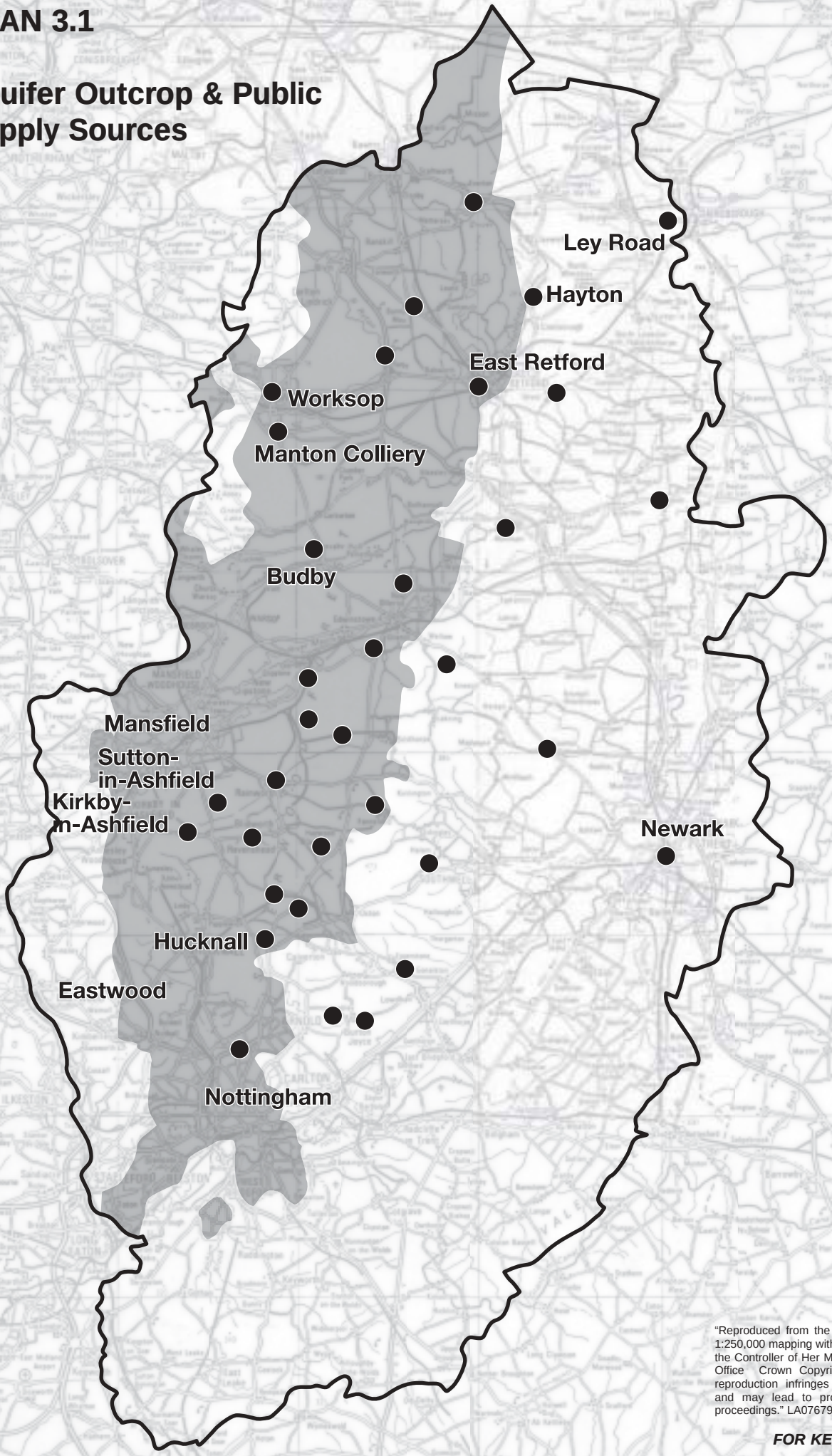
9 *See Glossary for definition.*

PLAN 3.1

Aquifer Outcrop & Public Supply Sources



FOR KEY SEE OVER

KEY TO PLAN 3.1

Aquifer Outcrop & Public Supply Sources

Public Water Supply: Groundwater Sources

Major Aquifer Outcrop (Sherwood Sandstone and Magnesian Limestone)

Source: National Rivers Authority

Scale: 1:312,500 (1" to 5 miles) 1cm = 3.125km

3.26 The Environment Agency has a duty to protect all water resources under the Water Resources Act 1991. The Agency's approach is set out in its "Policy and Practice for the Protection of Groundwater" which provides a technical framework to influence decisions which can affect the protection of groundwater. The Environment Agency's policies, recommendations and requirements will be taken into account when making planning decisions. In addition to planning control, Waste Management Licences normally impose conditions to prevent water pollution.

3.27 Further guidance for the protection of ground-water is given in a series of Groundwater Vulnerability Maps produced by the Environment Agency (Nottinghamshire is covered on Sheets 18 & 23).

POLICY W3.5

PLANNING PERMISSION WILL NOT BE GRANTED FOR A WASTE MANAGEMENT FACILITY WHERE THERE IS AN UNACCEPTABLE RISK OF POLLUTION TO GROUNDWATER OR SURFACE WATER OR WHERE IT AFFECTS THE INTEGRITY OR FUNCTION OF FLOODPLAINS, UNLESS THE HARM CAN BE MITIGATED BY ENGINEERING MEASURES AND/OR OPERATIONAL MANAGEMENT SYSTEMS.

POLICY W3.6

WHEN PLANNING PERMISSION IS GRANTED FOR A WASTE MANAGEMENT FACILITY, CONDITIONS WILL BE IMPOSED, WHERE RELEVANT, TO PROTECT SURFACE AND GROUNDWATER RESOURCES. SUCH CONDITIONS MAY INCLUDE:

(a) LINING AND CAPPING OF WASTE DISPOSAL SITES;

(b) LEACHATE MANAGEMENT AND MONITORING SYSTEMS;

(c) IMPERMEABLE HARDSTANDING WHERE WASTE IS TO BE STORED, HANDLED OR TREATED;

(d) MEASURES TO CONTROL DIESEL, OIL OR CHEMICAL SPILLAGE;

(e) SEPARATE DRAINAGE SYSTEMS FOR CLEAN AND DIRTY SITE RUN-OFF;

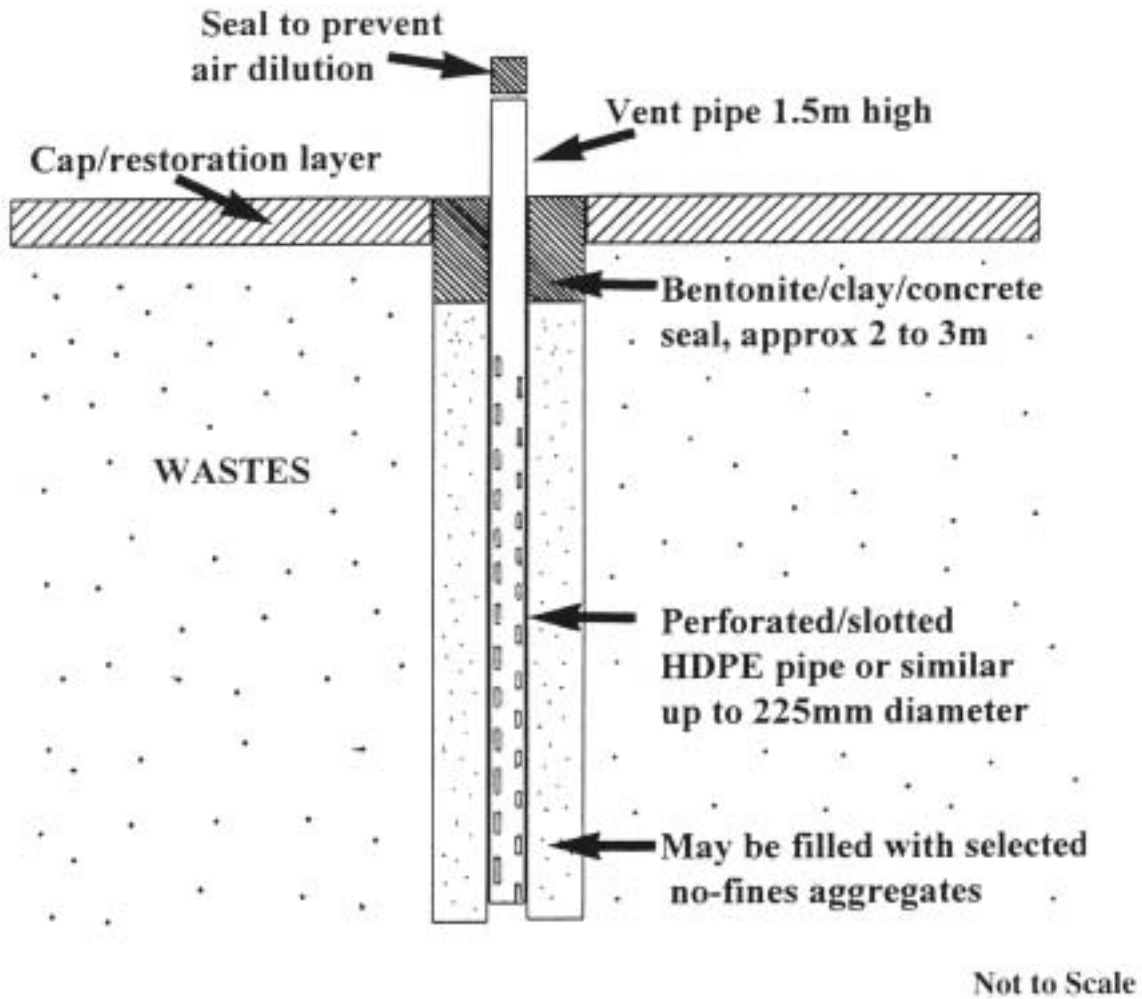
(f) RESTRICTIONS ON WASTE TYPES.

3.28 Conservation organisations also provide useful advice on measures needed to protect wildlife habitats from water pollution.

Landfill Gas and Leachate

3.29 When biodegradable waste decomposes in a disposal site it produces landfill gas[10] and leachate. These must be safely controlled and managed. Measures include lining and capping the site with low permeability material either natural, such as clay and bentonite,[11] or artificial polymers. This will aid the containment of gas and leachate within the site. Where volumes of gas are very low, it may be possible to vent it to the atmosphere. Normally, however, a piped collection system will be required either to flare off the gas, or preferably to enable its use as a fuel to generate electricity (see Chapter 6). Leachate can be directed towards sumps and removed by pumping. It can either be recirculated or treated on site, or tankered off site or discharged to sewers for treatment and disposal. In all cases monitoring will be required to determine the quantity and make up of the gas and leachate produced and to ensure there is no migration off site. Figure 3.1 illustrates a typical gas monitoring borehole.

Fig 3.1 Diagram of Gas Monitoring Borehole



Source: DoE Waste Management Paper No. 27, HMSO 1991.

10 *See Glossary for definition*

11 *See Glossary for definition*

3.30 Landfill gas and leachate generation may continue for over thirty years after waste disposal operations have ceased. It is important, therefore, that monitoring continues until levels are safe. This should include monitoring outside lined sites to test the integrity of the liner. Such matters are controlled by the Environment Agency under the 1990 Environmental Protection Act.

Odour

3.31 Non-inert, particularly household, waste can generate an unpleasant smell as it decomposes. Landfill gas can also give off an offensive smell. These are important concerns when considering proposals near to sensitive locations, such as residential areas and public footpaths.

3.32 Nuisance from smell can be minimised by regularly covering waste with inert material, such as soil. In some circumstances it may be necessary to do this as each load is tipped, but normally covering at the end of the working day is sufficient. Control of odours from the passive venting of gas is less easy to manage. Waste management licence conditions may also address this issue, under the provisions of the Environmental Protection Act 1990.

POLICY W3.7

WHEN PLANNING PERMISSION IS GRANTED FOR A WASTE MANAGEMENT FACILITY, CONDITIONS WILL BE IMPOSED, WHERE NECESSARY, TO REDUCE THE IMPACT OF UNPLEASANT ODOURS. SUCH CONDITIONS MAY INCLUDE:

(a) DAILY COVER AT DISPOSAL SITES;

(b) RESTRICTIONS ON THE AMOUNT OF TIPPING AREA EXPOSED AT ANY ONE TIME;

(c) RESTRICTIONS ON TEMPORARY STORAGE OF WASTE;

(d) ENCLOSURE OF WASTE RECEPTION AND STORAGE AREAS;

(e) SHEETING OF LORRIES;

(f) AERATION TECHNIQUES AT COMPOSTING SITES;

(g) MEASURES TO COLLECT AND MANAGE LANDFILL GAS AND/OR LEACHATE;

(h) THE USE OF CONTINGENCY MEASURES SUCH AS ODOUR MASKING AGENTS, OR REMOVAL OF MALODOUROUS MATERIAL.

Litter

3.33 Litter is most commonly a problem at disposal sites, where uncompacted waste can be blown away; at transfer stations, where waste is being moved from one container to another; and uncovered lorries or skips carrying waste.

Remedies include regularly covering deposited waste with soil or other material; use of perimeter litter-trap fencing and sheeting of lorries and containers to prevent spillage. Waste management licence conditions will normally require steps to be taken to control litter.

POLICY W3.8

WHEN PLANNING PERMISSION IS GRANTED FOR A WASTE MANAGEMENT FACILITY, CONDITIONS WILL BE IMPOSED TO PREVENT LITTER NUISANCE. WHERE RELEVANT, SUCH CONDITIONS MAY INCLUDE:

(a) PERIMETER LITTER-CATCH FENCING;

(b) THE ENCLOSURE OF WASTE STORAGE AREAS;

(c) SHEETING OF LORRIES;

(d) COLLECTION OF WIND-BLOWN LITTER;

(e) SECURITY MEASURES TO DISCOURAGE FLY-TIPPING;

(f) DAILY COVER AT WASTE DISPOSAL SITES.

Noise

3.34 The primary sources of noise are mobile plant, such as dumptrucks and compactors. Reversing bleepers can be particularly annoying.

3.35 Noise impact can be reduced by locating processing plant and other noisy operations away from sensitive areas, such as residential properties other buildings and rights of way, and restricting hours of working. Sound-proofing measures include cladding fixed plant, and replacing reversing bleepers with remote sensor mechanisms. Any alternatives to vehicle reversing alarms would need to have regard to Health and Safety Executive legislation.

3.36 Noise sensitivity is also dependent upon the existing background levels. For example, a site located next to a busy road is unlikely to have as much noise impact as one situated in a quiet rural setting. Where practicable, it may be appropriate to impose maximum noise levels at sensitive locations. Guidance on how planning controls should take account of noise impact is provided in planning policy guidance[12]. MPG11[13] provides advice on noise impact from mineral workings, much of which is appropriate to waste disposal operations. Where waste disposal is an integral part of a mineral scheme, advice in MPG11 is directly relevant.

12 *Planning Policy Guidance Note No. 24 - Planning and Noise, 1994.*

13 *Minerals Planning Guidance Note No. 11 - The Control of Noise at Surface Mineral Workings, 1993.*

POLICY W3.9

WHEN PLANNING PERMISSION IS GRANTED FOR A WASTE MANAGEMENT FACILITY, CONDITIONS WILL BE IMPOSED TO REDUCE THE POTENTIAL NOISE IMPACT. SUCH CONDITIONS MAY INCLUDE:

(a) RESTRICTING HOURS OF OPERATION;

(b) SOUND PROOFING OF FIXED AND MOBILE PLANT;

(c) ALTERNATIVES TO THE USE OF REVERSING BLEEPERS;

(d) STAND-OFF DISTANCES BETWEEN OPERATIONS AND NOISE SENSITIVE LOCATIONS;

(e) NOISE BAFFLE MOUNDS AND SCREEN FENCES;

(f) SETTING MAXIMUM NOISE LEVELS AT SENSITIVE LOCATIONS.

Dust

3.37 Soil handling operations, haul roads, fixed plant, and stockpiles of soil and waste material are likely to be the main sources of dust, especially when conditions are dry and windy.

3.38 Ameliorative measures include water bowsers to dampen haul roads, proper plant maintenance, and screening banks. Tree screens may also help trap dust and reduce wind flow. Total dust suppression is, however, difficult to achieve, and even the most diligent waste disposal operator may experience occasional lapses in control. Accordingly, where potential dust nuisances are identified, these should be kept away from sensitive areas, such as residential properties and nature conservation sites where dust is likely to cause harm or nuisance.

POLICY W3.10

WHEN PLANNING PERMISSION IS GRANTED FOR A WASTE MANAGEMENT FACILITY, CONDITIONS WILL BE IMPOSED TO SUPPRESS DUST GENERATION. SUCH CONDITIONS MAY INCLUDE:

(a) THE USE OF WATER BOWSERS ON HAUL ROADS;

(b) SCREEN BANKS;

(c) ENCLOSING DUST GENERATING FIXED PLANT AND MACHINERY;

(d) SITING DUST GENERATING OPERATIONS AWAY FROM SENSITIVE AREAS;

(e) TEMPORARY SUSPENSION OF OPERATIONS WHEN NECESSARY;

(f) THE USE OF TREE SCREENS WHERE RELEVANT.

Mud

3.39 Unmetalled internal haul roads and plant areas usually become very muddy and, unless precautions are taken, site traffic can spread mud onto adjoining public highways. Whilst this is an offence and subject to control under highway law[14], planning conditions can play a preventative role by imposing measures to minimise the risk of this happening. These include wheel cleaning facilities and metalling access roads for a reasonable length from the public highway.

POLICY W3.11

WHEN PLANNING PERMISSION IS GRANTED FOR A WASTE MANAGEMENT FACILITY, CONDITIONS WILL BE IMPOSED TO PREVENT MUD AND OTHER DELETERIOUS MATERIAL CONTAMINATING PUBLIC HIGHWAYS. SUCH CONDITIONS MAY INCLUDE:

(a) WHEEL CLEANING FACILITIES;

(b) METALLING HAUL ROADS NEAR THEIR POINT OF ACCESS ONTO THE PUBLIC HIGHWAY.

Birdstrike

3.40 Putrescible household waste can attract large numbers of birds. Near airports and airfields this can create the risk of birdstrike[15] for low-flying aircraft. This danger can be minimised by covering the waste deposited with inert material as soon as possible, and by using bird-scarers. Major civil and MOD airports are subject to statutory consultation procedures[16] within a safeguarded area defined on a map by the relevant airport authority. In Nottinghamshire such arrangements apply to the East Midlands Airport. The potential for bird strike is an important consideration. At other aerodromes informal consultation with the aerodrome manager is advised for proposals within 13km of the aerodrome.

14 *Highways Act 1980, Sections 150 and 151.*

15 *See Glossary for definition*

16 *Safeguarding Aerodromes, Technical Sites and Explosive Storage Areas - Circular 2/92.*

POLICY W3.12

WHEN PLANNING PERMISSION IS GRANTED FOR A WASTE MANAGEMENT FACILITY IN PROXIMITY TO AIRPORTS AND AIRFIELDS, CONDITIONS WILL BE IMPOSED, WHERE NECESSARY, TO MINIMISE THE RISK OF BIRD STRIKE. SUCH CONDITIONS MAY INCLUDE:

(a) THE USE OF BIRD SCARERS OR OTHER MEASURES;

(b) DAILY COVER AT WASTE DISPOSAL SITES.

Vermin

3.41 Household waste can attract vermin and so create a public health risk. Covering of waste and effective environmental management can help to discourage vermin. Controls exist under the Environmental Protection Act 1990 and the Prevention of Damage by Pests Act (1949).

FLOOD DEFENCES

3.42 Waste management facilities, particularly waste disposal, can reduce flood storage capacity, impede surface and groundwater flows and thus increase the risk of flooding elsewhere. Surface tipping can also disrupt local drainage systems by breaching or removing water courses. Potential obstructions include raised tipping areas, soil and overburden mounds and fixed plant. Infilling voids to no higher than original ground levels and constructing storage mounds parallel to flood flows are likely requirements in critical areas.

3.43 Structure Plan Review Policy 11/1 and Nottingham Local Plan policy ENV 16 aim to protect floodplains and washlands respectively from the adverse affects of development. Guidance on what flood defence measures are required is provided by the Environment Agency and Internal Drainage Boards.

POLICY W3.13

WHEN PLANNING PERMISSION IS GRANTED FOR A WASTE MANAGEMENT FACILITY WITH THE POTENTIAL TO ADVERSELY AFFECT FLOODPLAINS, FLOOD DEFENCES, OR THE INTEGRITY OF THE LOCAL DRAINAGE SYSTEM, CONDITIONS WILL BE IMPOSED, TO PROTECT THESE INTERESTS. WHERE RELEVANT SUCH CONDITIONS MAY INCLUDE:

(a) CONTROLS OVER THE LOCATION OF BUNDS, FIXED PLANT OR OTHER POTENTIAL OBSTACLES TO FLOOD FLOWS;

(b) CONTROLS ON FINAL RESTORATION LEVELS;

(c) PROTECTION OF EXISTING DRAINAGE FEATURES.

TRANSPORT

3.44 The movement of waste to disposal sites, transfer stations and incinerators can generate large volumes of traffic. Government advice states that travelling distances should be kept to a minimum, thereby reducing environmental and financial costs. This accords with the "proximity principle" (see Chapter 2, Para 2.22). Structure Plan Review Policy 12/1(h) recognises the need to assess different transport options. Options include road, rail, water, pipeline, and conveyor belt.

3.45 Household, commercial and industrial wastes normally require the greater flexibility offered by road transport as their sources are local and scattered. PFA is ideally suited to being moved by pipeline. Whilst rail transport of waste is not used in Nottinghamshire, the potential exists.

Road Traffic

3.46 The Highways Agency, an Executive Agency of the Department of Transport, Local Government and the Regions, oversees the trunk road and motorway network . It is also responsible for the day to day management of trunk roads and consultation on any issues concerning their function, including the consideration of planning applications.

3.47 Most waste management operations involve some road transport. In some cases, site development can also involve substantial road movement of construction materials. Such road traffic can have a significant environmental impact on the countryside and residential amenity, and can cause structural damage to the highway network. Conservation areas are also unlikely to be suited to heavy traffic. The main problems caused by heavy lorry traffic are: noise, vibration, mud, dust, spillage of waste materials, fumes, damage to buildings, roads and highway trees, visual intrusion and a reduction in road safety. These problems are, potentially, most severe where the public highway adjoins the site access or lorry routes pass through residential areas.

3.48 General guidance on controlling road traffic is contained in Structure Plan Review Policies 5/6, 5/8, 5/14 and 5/15. Detailed guidance on land use and transportation is provided in District Local Plans and the City of Nottingham Local Plan. In addition to development plan policies, there are two Local Transport Plans covering Greater Nottingham and the rest of the County. These are prepared by the highway authority (i.e. the County Council and City of Nottingham) and cover the co-ordination and improvement of all forms of transport, setting out proposals for future investment and the implementation of specific measures.

3.49 Guidance on proposals affecting motorways and trunk roads is provided by the Highways Agency[17]. For waste management facilities measures to limit adverse effects include: sheeting of lorries, installation of wheel cleaning facilities, highway improvements and hours of working. These can best be achieved by the use of conditions, or, where appropriate, planning obligations (see Para 3.13). Under the Highways Act (1980) the WPA can also claim additional maintenance costs due to heavy traffic.

17 *The Control of Development on Trunk Roads - DoT Circular 4/88.*

3.50 Lorry routeing can also be a major consideration in assessing the acceptability of waste management proposals. Whilst a reasonable route may exist, which the operator may well be willing to use, planning controls cannot be used to provide sufficient assurance that any given route will be adhered to. This is because planning conditions can do no more than simply require the operator to post site notices or issue instructions to drivers to avoid certain routes. Whilst such measures help ensure drivers are aware of routes to avoid or follow, these conditions have no power to require adherence to any given route. Planning obligations are not an option because, whilst they can secure highway improvements, they cannot restrict right of passage over public highways. Waste management operators can, however, give an undertaking to impose sanctions such as refusing to accept or load those vehicles that do not comply to a particular agreed route.

3.51 A satisfactory remedy is, however, possible, at least where there is agreement in principle between the waste management operator and the WPA over routeing. The waste operator can offer to provide adequate legally binding assurances by entering into an agreement under Section 111 of the 'Local Government (Miscellaneous Provisions) Act 1972'. Where such assurances exist, then this might enable planning permission to be granted where it would otherwise be refused because of the unacceptable environmental risks associated with uncontrolled lorry routeing.

POLICY W3.14

PLANNING PERMISSION WILL NOT BE GRANTED FOR A WASTE MANAGEMENT FACILITY WHERE THE VEHICLE MOVEMENTS LIKELY TO BE GENERATED CANNOT BE SATISFACTORILY ACCOMMODATED BY THE HIGHWAY NETWORK OR WOULD CAUSE UNACCEPTABLE DISTURBANCE TO LOCAL COMMUNITIES.

POLICY W3.15

IN GRANTING PLANNING PERMISSION FOR A WASTE MANAGEMENT FACILITY THE COUNTY COUNCIL WILL AS APPROPRIATE:

(a) IMPOSE CONDITIONS REQUIRING THE POSTING OF SITE NOTICES AND/OR THE ISSUING OF INSTRUCTIONS TO LORRY DRIVERS DETAILING ANY ROUTES TO BE AVOIDED OR FOLLOWED;

(b) SEEK TO NEGOTIATE PLANNING OBLIGATIONS IN ORDER TO SECURE HIGHWAY IMPROVEMENTS.

Bulk Movement

3.52 Where large amounts of material are involved, and the flexibility of road transport is not essential, alternative means of transport which are more environmentally acceptable will normally be preferred. Bulk movement by rail or water can help to reduce the environmental impacts of waste management operations, including the effect on the amenity of settlements along possible routes. It may also make it more feasible to transport waste over longer distances, where there are no suitable local waste management options.

POLICY W3.16

THE BULK TRANSPORT OF WASTE BY RAIL, BARGE, PIPELINE OR CONVEYOR, WILL BE PERMITTED WHERE THIS WILL RESULT IN AN OVERALL ENVIRONMENTAL BENEFIT.

COUNTRYSIDE

3.53 Waste disposal mainly occurs in the countryside, either as a means to infill mineral workings and other voids, or as a landraising operation (see Chapter 10). Other forms of waste management facility are usually located in urban or industrial areas. However, in the preparation of the Plan and assessing proposals for waste management facilities in the countryside, consideration needs to be given to the impact of development on features in the landscape requiring protection and management. The following issues need to be considered:

Green Belt

3.54 Development proposals within the Green Belt need to have regard to Structure Plan Review Policy 3/2 and Nottingham Local Plan Policy CD5. The Nottinghamshire Green Belt Local Plan (1989) defines a broad belt of countryside around the Greater Nottingham Conurbation where great restraint is placed on development. Structure Plan Review Policy 1/5 requires a reappraisal of the Green Belt boundaries within District Local Plans as they are reviewed. this process is now largely complete.

3.55 PPG2[18] has been revised and updates the list of developments that are considered to be appropriate in a Green Belt. These include essential rural activities such as agriculture, forestry and mineral extraction, recreational and tourism uses, cemeteries, infill building and change of use of appropriate buildings. Whilst waste disposal is not cited, where mineral extraction is permitted, infilling with waste may be the most acceptable, if not, the only feasible option for reclaiming the land to an after-use appropriate within the Green Belt. Indeed within the Nottinghamshire Green Belt there are a number a reclamation schemes such as at Dorket Head and Burntstump Quarries which fall within this category. Waste disposal as a means for reclaiming mineral voids in the Green Belt will, in principle, be acceptable and appropriate where it represents the best reclamation option.

3.56 Waste disposal may also be acceptable where this provides the most effective means for reclaiming other derelict voids to an after-use appropriate within the Green Belt. The reclamation of other areas of derelict and degraded land by land raising is not considered appropriate, as reclamation should normally be possible without the need to import waste.

18 *Planning Policy Guidance Note No. 2 - Green Belts, 1995.*

3.57 Where waste disposal is permitted, then other associated waste management development may be justified. For example at Burntstump and Dorket Head, energy recovery schemes exist and in the former there is also a household waste recycling centre. Such developments can be considered appropriate providing they are linked to the life of the disposal operations (energy recovery schemes may, by necessity, have a longer life than the disposal operations), promote sustainable development and in terms of location, design and materials do not have an unacceptable impact on the open character of the Green Belt.

POLICY W3.17

PLANNING PERMISSION WILL ONLY BE GRANTED FOR WASTE DISPOSAL IN THE GREEN BELT WHERE THIS REPRESENTS THE BEST OPTION FOR RECLAIMING MINERAL WORKINGS OR OTHER DERELICT VOIDS TO AN AFTER-USE APPROPRIATE TO THE GREEN BELT AND WHERE THERE IS NO UNACCEPTABLE IMPACT ON THE OPEN CHARACTER OF THE GREEN BELT DURING THE LIFE OF THE OPERATIONS. PROPOSALS FOR OTHER ASSOCIATED WASTE MANAGEMENT FACILITIES WILL ONLY BE PERMITTED WHERE THEY ARE:

(a) CLOSELY LINKED TO A DISPOSAL SITE;

(b) RELATED TO THE LIFE OF THE DISPOSAL OPERATIONS AND;

(c) PROMOTE SUSTAINABLE WASTE MANAGEMENT PRACTICES AND;

(d) HAVE NO UNACCEPTABLE IMPACT ON THE OPEN CHARACTER OF THE GREENBELT IN TERMS OF LOCATION, DESIGN AND MATERIALS.

3.58 In accordance with PPG2, it will be the applicant's responsibility to demonstrate that 'very special circumstances' exist for permitting any proposal which is inappropriate to the Green Belt and contrary to Policy W3.17.

Agriculture

3.59 Where waste disposal occurs within former mineral workings, the planning issues relating to agricultural land are covered by the policies and guidance contained in the Minerals Local Plan (see Chapter 3, Policy M3.16 of that plan).

3.60 Whilst government advice[19] recommends protecting the best and most versatile agricultural land[20], the emphasis on maximising food production has been reduced in favour of diversifying the rural economy. The loss of lower quality land is, therefore, a less significant constraint upon development. Structure Plan Review Policy 3/13 provides for the protection of the best and most versatile agricultural land and for the viability of farm units.

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19 *Planning Policy Guidance Note No. 7 - The Countryside - Environmental Quality and Economic and Social Development, February 1997.*

20 *PPG7 defines this as Grade 1, 2 and 3a (moderate, poor and very poor land comprises 3b, 4 and 5). See Glossary for full description of grades.*

3.61 Waste management development on the best and most versatile agricultural land will normally only be permitted where it can be demonstrated that the long-term agricultural potential can be maintained through operational, restoration and aftercare conditions. Where development would lead to the permanent loss of such agricultural land, permission will only be granted where it can be demonstrated that there are no alternatives and that there is a case of overriding need that outweighs the agricultural considerations. In establishing whether there is an overriding case of need, PPG7 advises that proposals will need to demonstrate that the development could not be accommodated on previously developed sites, within the boundaries of existing developed areas or on lower grade agricultural land. This could be because such land is not available or that available lower grade land has a recognised environmental value sufficient to override the agricultural considerations. Where development needs to take place on land of grades 1, 2 or 3a, and there is a choice between sites in different grades, development should be directed towards land of the lowest grade.

POLICY W3.18

PLANNING PERMISSION FOR WASTE MANAGEMENT DEVELOPMENT ON THE BEST AND MOST VERSATILE AGRICULTURAL LAND (GRADES 1, 2 AND 3A) WILL NOT BE GRANTED EXCEPT WHERE IT CAN BE DEMONSTRATED THAT:

(a) PROPOSALS WILL NOT AFFECT THE LONG TERM AGRICULTURAL POTENTIAL OF THE LAND; OR

(b) THERE IS NO AVAILABLE ALTERNATIVE AND THE NEED FOR DEVELOPMENT OUTWEIGHS THE AGRICULTURAL INTEREST; OR

(c) AVAILABLE LAND OF LOWER VALUE HAS AN ENVIRONMENTAL VALUE RECOGNISED BY A STATUTORY LANDSCAPE, WILDLIFE, HISTORIC OR ARCHAEOLOGICAL DESIGNATION WHICH OUTWEIGHS THE AGRICULTURAL CONSIDERATIONS.

WHERE LAND IN GRADES 1, 2 OR 3A DOES NEED TO BE DEVELOPED, AND THERE IS A CHOICE BETWEEN SITES IN DIFFERENT GRADES, DEVELOPMENT SHOULD BE DIRECTED TOWARDS LAND OF THE LOWEST GRADE.

TREES AND WOODLAND

3.62 Trees and woodlands are environmentally and commercially important, and are becoming increasingly significant for recreation and tourism. Existing trees and woodlands can also be valuable in screening waste operations.

3.63 Guidance on the protection of woodlands is provided by Structure Plan Review Policy 3/9. Ancient woodlands[21] represent an irreplaceable resource. Other woodlands of amenity, wildlife and recreational value should also be safeguarded. The need to protect commercial forests is less critical where waste disposal can be phased in conjunction with existing felling and replanting programmes. However, waste disposal may not be acceptable where such forests also have important amenity, conservation and/or recreational value. Many of these areas will be defined in Local Plans.

3.64 Where it is accepted that woodland can be temporarily lost to waste management facilities, the land will be required to be reclaimed with at least an equivalent area of woodland to be planted as part of the reclamation scheme in accordance with Structure Plan Review Policy 3/12. Where reclamation includes a nature conservation end-use, consideration should be given to the type and mix of species. This is to ensure that the resulting woodland is in keeping with the character of the surrounding area and provides an addition to the nature conservation resource of the County. Woodland reclamation is considered further in Chapter 4, paras 4.35-4.38 and Policy W4.14.

POLICY W3.19

PLANNING PERMISSION FOR A WASTE MANAGEMENT FACILITY WHICH WOULD DESTROY OR DEGRADE ANCIENT WOODLANDS WILL NOT BE GRANTED. OTHER WOODLANDS OF AMENITY, WILDLIFE AND RECREATIONAL VALUE WILL BE SAFEGUARDED UNLESS THEIR VALUE IS OUTWEIGHED BY THE NEED FOR THE DEVELOPMENT. WHERE THE DEVELOPMENT WOULD INVOLVE THE LOSS OF SUCH WOODLAND, THE LAND SHOULD BE RECLAIMED WITH AN EQUIVALENT AREA OF WOODLAND.

HEATHLANDS

3.65 Lowland heathland[22] represents a valuable wildlife and amenity resource, but one which has suffered a major decline in many parts of Great Britain, mainly due to agriculture and commercial forestry. Great Britain is believed to support around 15% of Europe's remaining lowland heath. This is therefore of international importance and is recognised in international and national guidance and legislation. At a County level this has been addressed by a County Heathland Strategy, Register and Recreation Plan (see below). In Nottinghamshire, lowland heathlands once extended over a large part of Sherwood Forest, but by 1990 only 250 hectares of heathland-type habitat survived. It is estimated that around 80% of this area is protected by SINC status, and therefore protected under Policy W3.23. The remaining 20% is protected by Policy W3.20 below.

21 *See Glossary.*

22 *See Glossary.*

3.66 The creation and protection of heathland is also supported in the Sherwood Study: A Vision for Sherwood Forest, the Strategic Plan for Greenwood, the 'Heathland Strategy for Nottinghamshire'[23] and the Nottinghamshire Local Biodiversity Action Plan. These documents seek to protect the remaining areas of heathland and to recreate new areas. The County Council is preparing a Heathland Register[24] on behalf of the Nottinghamshire Heathland Forum which will describe and map all known sites in the County.

POLICY W3.20

PLANNING PERMISSION FOR A WASTE MANAGEMENT FACILITY WHICH WOULD DESTROY OR DEGRADE AREAS DEFINED AS HEATHLANDS WILL NOT BE GRANTED UNLESS THEIR VALUE IS OUTWEIGHED BY THE NEED FOR THE FACILITY. WHERE PERMISSION IS GRANTED, PROPER PROVISION WILL BE MADE TO SURVEY AND RECORD THE SITE IN ORDER TO:

(a) MINIMISE THE EFFECTS ON THE HABITAT AND SPECIES;

(b) CONSIDER THE ACCOMMODATION OF SPECIES WITHIN THE SITE OR TO PROVIDE ALTERNATIVE HABITATS FOR THEIR USE;

(c) PROVIDE APPROPRIATE AMELIORATIVE MEASURES.

3.67 Wherever possible, heathlands should be retained and accommodated within schemes. Where it is accepted that heathland must be lost, appropriate ameliorative reclamation measures should comprise, where possible, the reclamation of the site or an alternative agreed area to heathland as defined by the Notts Heathland Forum. However, whilst it is possible to recreate the basic components of heathland vegetation, the complex association of flora and fauna is difficult to achieve. This emphasises the importance of protecting existing heathlands wherever possible.

3.68 Heathland after-uses are considered in Chapter 4, para 4.39.

WATER FEATURES

3.69 The rivers, canals, streams and lakes of Nottinghamshire provide important wildlife habitats and recreational corridors. Waste treatment and disposal can damage this resource by causing water pollution, through excessive culverting of watercourses or by damaging the amenity of the local environment. The Environment Agency states that waterways should be protected to retain their navigational and recreational usefulness (see para 3.26).

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23 *The Heathland Strategy for Nottinghamshire is being produced by the County Council, Notts Wildlife Trust and English Nature under the umbrella of the Nottinghamshire Heathland Forum.*

24 *Heathland Register for Nottinghamshire - Notts Heathland Forum.*

POLICY W3.21

PLANNING PERMISSION FOR A WASTE MANAGEMENT FACILITY, WHICH WOULD DESTROY OR DEGRADE THE AMENITY, SETTING OR NATURE CONSERVATION VALUE OF WATERCOURSES, WETLANDS AND LAKES WILL NOT BE PERMITTED UNLESS THEIR VALUE IS OUTWEIGHED BY THE NEED FOR DEVELOPMENT. WHERE PLANNING PERMISSION IS GRANTED, CONDITIONS WILL BE IMPOSED AND/OR PLANNING OBLIGATIONS SOUGHT TO BE NEGOTIATED IN ORDER TO SECURE AMELIORATIVE MEASURES TO REDUCE THE IMPACT TO AN ACCEPTABLE LEVEL.

BIODIVERSITY

3.70 In 1992 the UK Government signed the United Nations Convention on Biological Diversity at the 'Earth Summit' in Rio. This committed the UK to producing a national plan for biodiversity conservation, and 'Biodiversity: The UK Action Plan'[25] was published in 1994. This, together with subsequent reports, sets national priorities and targets and a programme of action to achieve them. The Plan is official Government Guidance.

3.71 In order to implement the UK Biodiversity Action Plan (UKBAP) the Government has assigned lead responsibility for producing and implementing Local Biodiversity Action Plans (LBAPs) to local authorities. The Nottinghamshire LBAP[26] was published in 1998 by a partnership of organisations including the City and County Councils.

3.72 Whilst designated sites continue to be important, Biodiversity Action Plans shift the emphasis towards action within the environment as a whole, both to protect the current resource and to restore past losses. This is in accordance with PPG9[27] which states that development plans should be concerned not only with designated sites, but also with other land of conservation value and possible provision of new habitats. The Nottinghamshire LBAP lists habitats and species which are priorities for nature conservation in the County. The habitats and species identified in the LBAP are protected under Policy W3.22. Action plans have been produced for a selection of these, setting targets to be achieved, action required and the lead organisations responsible. Nottinghamshire County Council and Nottingham City Council have a series of obligations which include both generic measures to conserve biodiversity and specific action points under each habitat or species action plan.

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25 *Department of the Environment (1994) Biodiversity: The UK Action Plan Cm 2428, HMSO, London.*

26 *Nottinghamshire Biodiversity Action Plan - a county strategy which lists the species and habitats of conservation concern in Nottinghamshire which are priorities for protection.*

27 *PPG9 Nature Conservation DoE October 1994.*

3.73 Information generated by the production and implementation of the LBAP will assist the planning process by providing detailed information as a basis for the revision of development plans. It can be expected that development plans will make a significant contribution to the delivery of UKBAP and LBAP targets. This will be through protecting priority species and habitats, and providing opportunities for habitat creation and enhancement.

POLICY W3.22

PLANNING PERMISSION FOR A WASTE MANAGEMENT FACILITY WHICH WOULD HARM OR DESTROY A SPECIES OR HABITAT OF COUNTY IMPORTANCE WILL ONLY BE GRANTED WHERE THE NEED FOR THE DEVELOPMENT OUTWEIGHS THE LOCAL CONSERVATION INTEREST OF THE SITE. WHERE PLANNING PERMISSION IS GRANTED FOR SUCH DEVELOPMENT, CONDITIONS WILL BE IMPOSED, OR PLANNING OBLIGATIONS SOUGHT, TO SECURE ACCOMMODATION ON-SITE OR THE PROVISION OF SUITABLE ALTERNATIVE HABITATS.

NATURE CONSERVATION (INCLUDING GEOLOGICAL) SITES

3.74 The County possesses a rich variety of wildlife habitats which may be affected, or even destroyed, by waste management facilities. Guidance for the protection of wildlife and geological sites is contained in Structure Plan Review Policies 3/6 and 3/7 and PPG9. Proposals affecting the countryside and/or affecting wildlife will be fully assessed.

3.75 In the UK, nature conservation sites range from those which are internationally protected to more informal, locally designated sites. The current categories of statutory and non-statutory designations are set out in Table 3.1. Other countryside features, outside of designated sites, may also contribute to the range and diversity of our flora, fauna, geology and landscape.

3.76 Nottinghamshire has over 60 Sites of Special Scientific Interest[28] (SSSI) which are of national importance, one of which (Birklands and Bilhaugh SSSI), is also of international importance as a candidate Special Area for Conservation[29]. There are many other important wildlife and geological sites which do not have SSSI or other statutory status in the County. These sites, commonly referred to as Sites of Importance for Nature Conservation [30](SINCS) have been designated by the Nottinghamshire Biological and Geological Records Centre at the Nottingham Natural History Museum, Wollaton Hall. The sites are included in an "Alert Schedule" which Local Authorities use to check if such sites are threatened by development proposals. Sites of geological value include SSSIs and those defined under a new "RIGS"[31] scheme. Nature conservation after-uses are considered in Chapter 4.

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28 *Site of Special Scientific Interest - see Glossary for full definition.*

29 *1992 Habitats Directive/1994 Habitats Regulations (See Glossary item under "Special Area for Conservation").*

30 *Site of Importance for Nature Conservation - see Glossary.*

31 *Regionally Important Geological Sites - See Glossary for full definition.*

3.77 Guidance on the relative levels of protection to be afforded to the different categories of designation is given in PPG9. In determining waste management applications, regard will be had to the relative significance of international, national, local and informal designations in considering the weight to be attached to nature conservation interests. In particular, DETR Circular 2/99 states that special considerations apply to SSSIs, especially those of international importance. Where proposed development is likely to have a significant effect on such sites, an Environmental Impact Assessment (EIA) and consultation with English Nature is likely to be required. Development affecting local sites may also require an EIA dependent upon the size, type and intensity of the proposal.

3.78 PPG9 is clear that a balance has to be made between protecting nature conservation interests whilst avoiding unreasonable constraints on development. However the emphasis lies with protecting the natural resource unless development is shown to be in the public interest. What is deemed to be in the public interest may include socio-economic factors but, where international sites host priority habitats or species identified in the EU Habitats Directive, the public interest should be limited to matters of human health and safety. A possible example of this might be a new sewage treatment works where capacity could not be provided elsewhere.

3.79 Where development is shown to be necessary, for example due to overriding reasons of public interest, proposals must consider how any harmful impacts can be mitigated. This can either be by protecting certain parts of the site from development or, if this is not possible, by providing suitable compensatory measures, such as new features which can replace the loss. For internationally important sites such measures are essential where the integrity of the site could be damaged. In particular the coherence of the European 'Natura 2000' network of sites must be protected. For national and local designations the scope for mitigation measures will be a factor to weigh against any potential harm that might be caused and the overall benefits of allowing the development to go ahead.

3.80 Waste management proposals have the potential to affect sites in conjunction with other existing or proposed development and this will be a material consideration in determining applications. Impacts are not limited to proposals falling within nature conservation sites. For example, proposals adjacent to or even some distance upstream, from a site, may have the potential to cause harm.

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32 *DETR Circular 2/99 "Environmental Impact Assessment"*

33 *See Glossary for definition of Natura 2000 network.*

TABLE 3.1 SITE DESIGNATIONS

IMPORTANCE	SITE DESIGNATION AND EXPLANATION	APPLICABLE UK STATUTORY DESIGNATION
SITES OF INTERNATIONAL IMPORTANCE	**Ramsar Sites** listed under the Convention on Wetlands of International Importance	SSSI
	Special Protection Areas (SPAs) classified under the EC Directive on the Conservation of Wild Birds	SSSI; SPA
	Special Areas of Conservation (SACs) to be designated under the EC Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (the Habitats Directive)	SSSI; SAC
SITES OF NATIONAL IMPORTANCE*	**National Nature Reserve (NNRs)** declared under Section 19 of the National Parks and Access to the Countryside Act 1949 or Section 35 of the Wildlife and Countryside Act 1981	SSSI
	Sites of Special Scientific Interest (SSSIs) notified under Section 28 of the Wildlife and Countryside Act 1981	SSSI
SITES OF REGIONAL/LOCAL IMPORTANCE	**Local Nature Reserves (LNRs)** designated by local authorities under Section 21 of the National Parks and Access to the Countryside Act 1949	LNR
	Non Statutory Nature Reserves established and managed by a variety of public and private bodies eg county wildlife trusts, Royal Society for the Protection of Birds	–
	Sites of Importance for Nature Conservation or equivalent. These are usually adopted by local authorities for planning purposes. The name and status of this type of site varies considerably	–

**Biological SSSIs collectively form a national series of sites; those SSSIs identified under the Nature Conservation Review and Geological Conservation Review criteria are key sites of national importance.*

Source - PPG9, Nature Conservation, Department of the Environment, 1994.

3.81 The planning application process may also identify important wildlife sites which have no formal designation. These can include linear or other landscape features which provide essential pathways and stepping stones for migration, dispersal and genetic exchange. Examples include rivers and their banks, ponds, hedgerows and small woods. Protection of such sites accords with Regulation 37 of the Habitats Regulations as set out in Paragraphs 16 and 23 of PPG9.

3.82 The nature conservation resource is currently being re-assessed by the Nottinghamshire Nature Conservation Audit Steering Group, which may supersede the two categories in the Alert Schedule. This exercise should be completed by 2002.

POLICY W3.23

WASTE MANAGEMENT PROPOSALS WHICH, EITHER INDIVIDUALLY OR IN COMBINATION WITH OTHER PROPOSALS, ARE LIKELY TO AFFECT SITES OR CANDIDATE SITES OF NATURE CONSERVATION OR GEOLOGICAL INTEREST WILL BE ASSESSED AS FOLLOWS:

(a) PROPOSALS WHICH ARE LIKELY TO SIGNIFICANTLY ADVERSELY AFFECT SITES OF INTERNATIONAL IMPORTANCE WILL NOT BE PERMITTED UNLESS:

(i) THERE IS NO ALTERNATIVE SOLUTION; AND

(ii) THERE ARE IMPERATIVE REASONS OF OVERRIDING PUBLIC INTEREST. WHERE THE SITE HOSTS A PRIORITY HABITAT OR SPECIES, THOSE REASONS MUST RELATE TO HUMAN HEALTH, PUBLIC SAFETY, OR BENEFICIAL CONSEQUENCES OF PRIMARY IMPORTANCE TO THE ENVIRONMENT; AND

(iii) ALL NECESSARY COMPENSATORY MEASURES ARE TAKEN TO ENSURE THE OVERALL COHERENCE OF THE NETWORK OF SUCH SITES.

(b) PROPOSALS WHICH ARE LIKELY TO SIGNIFICANTLY ADVERSELY AFFECT SITES OF NATIONAL IMPORTANCE WILL NOT BE PERMITTED UNLESS THE REASONS FOR THE DEVELOPMENT OUTWEIGH THE NATURE CONSERVATION CONSIDERATIONS.

(c) PROPOSALS WHICH ARE LIKELY TO SIGNIFICANTLY ADVERSELY AFFECT SITES OF REGIONAL OR LOCAL IMPORTANCE WILL ONLY BE PERMITTED WHERE THE IMPORTANCE OF THE DEVELOPMENT OUTWEIGHS THE LOCAL VALUE OF THE SITE.

THE ASSESSMENT OF ANY ADVERSE IMPACT WILL TAKE ACCOUNT OF THE SCOPE FOR MITIGATION AND/OR COMPENSATORY MEASURES TO REPLACE THE LOSS.

Protected Species

3.83 Certain plant and animal species, including all wild birds, are protected under the 1981 Wildlife and Countryside Act. Part 1 of the Act sets out the protection to be afforded to wild animals and plants. The species to be protected are set out in Schedules. Schedule 1 on birds, Schedule 5 on animals and Schedule 8 on plants, are reviewed every 5 years. In addition, some other animals, including badgers, are protected under their own legislation. The protection provided by these Acts is additional to that offered by the planning system.

3.84 In addition the EU "Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora" (The Habitats Directive) and the corresponding "Conservation (Natural Habitats, &c.) Regulations 1994" (The Habitats Regulations) identify priority species and habitats which are afforded protection at the national level.

3.85 The presence of a protected species is a material consideration when assessing a development proposal which would be likely to result in harm to the species or its habitat. PPG9 advises that English Nature should be consulted prior to the granting of planning permission and that planning conditions and/or obligations should be used to secure the protection of the species concerned. These may include ameliorative measures to facilitate the survival of individual members of the species, to reduce disturbance to a minimum and, if necessary, the provision of alternative habitats.

~~POLICY W3.24~~

~~**WASTE MANAGEMENT DEVELOPMENT LIKELY TO CAUSE HARM TO A SPECIES OR ITS HABITAT PROTECTED UNDER BRITISH OR EUROPEAN LAW, WILL ONLY BE PERMITTED WHERE THERE ARE IMPERATIVE REASONS OF OVERRIDING PUBLIC INTEREST. WHERE SUCH DEVELOPMENT IS PERMITTED, CONDITIONS WILL BE ATTACHED AND/OR PLANNING OBLIGATIONS SOUGHT, TO SECURE THE PROTECTION OF THE AFFECTED SPECIES.**~~

THE COUNTRYSIDE APPRAISAL & MATURE LANDSCAPE AREAS

3.86 Nottinghamshire contains a number of distinct landscapes reflecting variations in its underlying geology and land-use. As part of the Countryside Appraisal[34], Nottinghamshire Landscape Guidelines were published in 1998 following a landscape assessment of the County. This document identifies 10 'regional character areas' and their component 'landscape types'. It examines the features that contribute to local distinctiveness and provides management guidelines in order to strengthen the character of the Nottinghamshire countryside.

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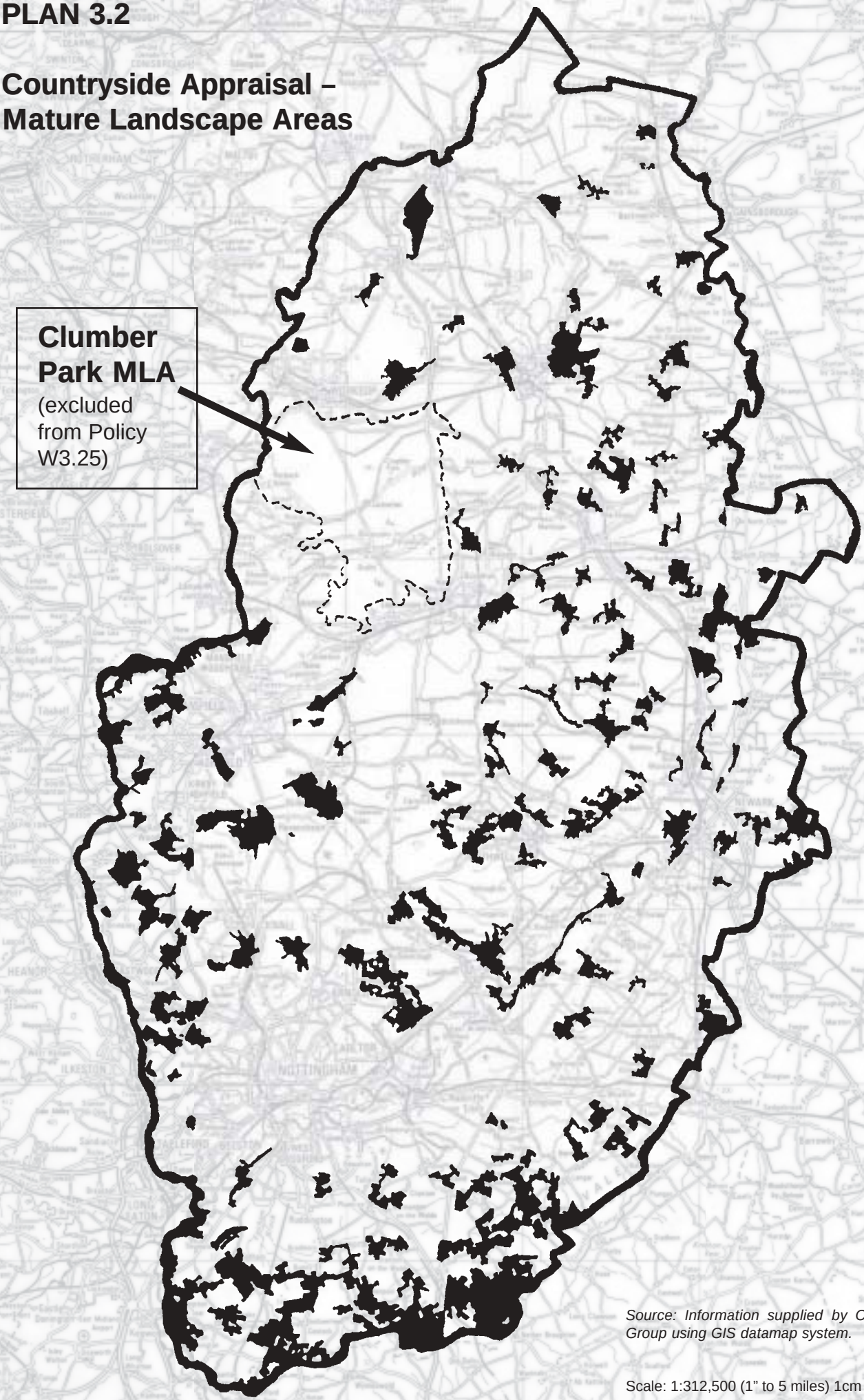
34 Countryside Appraisal - Landscape Guidelines 1997.

PLAN 3.2

Countryside Appraisal – Mature Landscape Areas



Source: Information supplied by Countryside Group using GIS datamap system.

Scale: 1:312,500 (1" to 5 miles) 1cm = 3.125km

3.87 The main objectives of the Appraisal are to identify the quality and character of the landscape. In particular, it defines mature landscape areas (MLAs) which comprise the last remaining tracts of countryside that have largely escaped the adverse effects of arable farming, commercial forestry and mineral extraction over the past 30-40 years (see Plan 3.2). The Appraisal therefore seeks to both conserve these areas and to protect them from unsuitable forms of development. This protection is in accordance with PPG7. The Appraisal also provides guidelines on appropriate native tree and shrub species and landscape measures to assist in screening and reclaiming mineral and waste workings. The Mature Landscape Study was completed in 1993.

3.88 The MLAs defined in the Appraisal mostly vary between 2.8ha and 423ha. However, the majority are small ranging from 50 to 150ha. The 8,656 ha Sherwood Forest/Dukeries MLA is part of Sherwood Forest and is also afforded protection as a Special Landscape and Heritage Area in the Structure Plan Review.

POLICY W3.25

WASTE MANAGEMENT DEVELOPMENT LIKELY TO CAUSE HARM TO A MATURE LANDSCAPE AREA WILL ONLY BE PERMITTED WHERE THERE ARE IMPERATIVE REASONS OF OVERRIDING PUBLIC INTEREST OR WHERE AMELIORATIVE MEASURES ARE PROVIDED.

PUBLIC ACCESS

3.89 The County and City Council's aim is to ensure the existing network of public rights of way is maintained, which is achieved through a close working relationship with landowners occupiers and other organisations representing users. Proposals for waste management facilities which affect rights of way objectives should take account of Structure Plan Review Policy 7/4. Where development results in the temporary or permanent loss of any public right of way, an appropriate alternative route of at least equivalent interest and quality should be agreed with all parties and then provided.

POLICY W3.26

PLANNING PERMISSION FOR A WASTE MANAGEMENT FACILITY WHICH WOULD TEMPORARILY OR PERMANENTLY DISRUPT PUBLIC RIGHTS OF WAY WILL NOT BE GRANTED UNLESS ALTERNATIVE ROUTES OF AT LEAST EQUIVALENT INTEREST OR QUALITY ARE AVAILABLE.

3.90 Consultation with the County or City Councils on any public right of way affected by a proposed waste management facility should take place at the earliest possible stage and well before an application is made to divert or extinguish a path. This is because the statutory processes involved are separate from the application for planning permission for the waste management facility. A delay or failure to secure the required amendments could therefore prejudice the implementation of the waste development.

THE HISTORIC ENVIRONMENT

3.91 The historic environment of Nottinghamshire comprises of over 6,000 archaeological sites and historic features currently registered on the County Sites and Monuments Record, and over 4,000 Listed Buildings and 148 Conservation Areas registered on the Historic Buildings Record. The historic environment by its very nature is an irreplaceable resource and Government guidance in the form of PPG15[35] and PPG16[36] requires protection of the resource, whilst recognising the need for development. Waste management development may involve both open land and sites within urban areas, and the historic environment will need to be taken into consideration.

Archaeology

3.92 The 6,000 sites and historic features currently registered, are not the limit of archaeological resource however; the identification of individual sites is often inhibited by factors such as geology and land use or resources. There is a high probability that proposals will affect known archaeological sites or areas of archaeological potential.

3.93 Archaeology is an irreplaceable resource requiring conservation through careful management. Where disposal comprises the infilling of mineral workings, the archaeological issues are covered by the Minerals Local Plan.

3.94 Where waste management operations, including disposal, coincide with undisturbed land, this will normally involve the prior removal of top and subsoils. This may damage any archaeological features upon or just below the surface of the ground.

3.95 Government advice is contained in PPG16. Structure Plan Review Policy 3/4 sets out the strategic approach to archaeology, while the Nottingham Local Plan Policies CD 19 to CD 23 contain policy guidance on archaeology as it affects the City. The first part of this is to preserve Scheduled Ancient Monuments and their settings[37]. Waste management facilities will normally be resisted at such sites. Other sites of major importance also require a similar degree of protection. In addition the Confederation of British Industries revised Code of Practice for operators on archaeological investigations provides advice on how operators should consult archaeological interests in formulating planning applications. The purpose is to ensure that archaeological factors are fully taken into account in the planning decision process.

35 *Planning Policy Guidance Note No. 15 - Planning and the Historic Environment, 1994.*

36 *Planning Policy Guidance Note No. 16 - Archaeology and Planning, 1990.*

37 *Ancient Monuments and Archaeology Act 1979.*

3.96 Although preservation of archaeological sites is a primary objective, it is clearly impracticable to preserve them all. Equally, sites should not be destroyed without careful consideration and treatment. The second part of this approach is to ensure that, where preservation in-situ is not feasible, sites are surveyed, excavated or otherwise appropriately recorded. These provisions can only be assessed after the archaeological characteristics of proposed sites have been evaluated. An appropriate scheme of treatment[38] must then be agreed.

3.97 It follows that archaeological constraints must be identified and addressed at the earliest possible opportunity, and ideally well before the planning application stage, if delays are to be avoided. With full prior discussion, a scheme of treatment covering all issues can be submitted as part of a planning application to be secured through conditions and/or a planning obligation with the minimum of delay. Arrangements for funding may also need to be incorporated into planning obligations.

POLICY W3.27

WHERE NATIONALLY IMPORTANT ARCHAEOLOGICAL REMAINS, WHETHER SCHEDULED OR NOT, AND THEIR SETTINGS ARE AFFECTED BY PROPOSED WASTE MANAGEMENT DEVELOPMENT, THERE WILL BE A PRESUMPTION IN FAVOUR OF THEIR PHYSICAL PRESERVATION IN SITU. PLANNING PERMISSION WILL ONLY BE GRANTED FOR DEVELOPMENT WHICH WOULD AFFECT ARCHAEOLOGICAL REMAINS OF LESS THAN NATIONAL IMPORTANCE WHERE THERE IS AN OVERRIDING NEED FOR THE FACILITY AND WHERE PROVISION IS MADE FOR THE EXCAVATION AND RECORDING OF THE REMAINS.

Listed Buildings and Conservation Areas

3.98 The historic environment also consists of over 4000 Listed Buildings and 148 Conservation Areas registered on the County Council's Historic Buildings Record. Nottinghamshire also has 13 parks which are listed in the 'Register of Park and Gardens of Special Historic Interest in England, 1985' produced by English Heritage, covering some 3,800 hectares of the County. PPG15 and Structure Plan Review Policy 3/17 recognise the irreplaceability of the resource and provide for the protection and enhancement of the historic and architectural character of the County. Proposals for waste management facilities will often affect open land, but in some circumstances Conservation Areas, listed buildings and their settings in urban areas and those more isolated in the open countryside may be affected. In many cases, with the use of careful design and stand-off distances, it may be possible to accommodate waste management development in the vicinity of such features.

38 *See Glossary for definition.*

POLICY W3.28

PROPOSALS FOR WASTE MANAGEMENT DEVELOPMENT WHICH WOULD HARM THE CHARACTER, APPEARANCE, CONDITION OR SETTING OF CONSERVATION AREAS, LISTED BUILDINGS, AND HISTORIC PARKS AND GARDENS WILL NOT BE PERMITTED.

CUMULATIVE IMPACT

3.99 In some areas, the extent of a mineral resource may result in a succession of applications for extraction and infilling with waste. In other areas, the availability of land may lead to a number of landraising proposals. The impact, both real and perceived, of a concentration of operations close to, or even surrounding, a community can be especially damaging to the general quality of life. It may also irrevocably and adversely alter the existing landscape character.

3.100 The stage may therefore be reached, where it is the cumulative rather than the individual impact of a proposal that renders it environmentally unacceptable.

POLICY W3.29

PLANNING PERMISSION WILL NOT BE GRANTED FOR A WASTE MANAGEMENT FACILITY WHICH WOULD RESULT CUMULATIVELY IN A SIGNIFICANT ADVERSE IMPACT ON THE EXISTING LANDSCAPE CHARACTER AND/OR THE AMENITY OF NEARBY SETTLEMENTS.

CHAPTER 4

RECLAMATION

Dorket Head Clay Working and Landfill Site (near Arnold). Waste disposal will enable this mineral working to be reclaimed back to original ground levels.

INTRODUCTION

4.1 An important environmental advantage of waste disposal is that it can represent the most appropriate and sometimes the only means of reclaiming worked out mineral sites and other voids. In Nottinghamshire an estimated 584 hectares of mineral workings had been reclaimed through infilling with waste by 1994 (see Table 4.1). The environmental advantages of reclaiming other derelict or degraded land are generally less significant as usually such sites are technically capable of being reclaimed without the need for waste disposal. Reclamation standards at many sites in Nottinghamshire have been poor, with problems of pollution and limited agricultural productivity. This can largely be attributed to old planning permissions with weak controls, as well as past inadequate reclamation practices by the waste disposal industry.

TABLE 4.1 - NOTTINGHAMSHIRE - MINERAL WORKINGS RECLAIMED WITH IMPORTED FILL (hectares)

Fill Category	Land reclaimed with fill by 1988	Land reclaimed with fill by 1994	Annual Average 1988-1994
PFA	319	428	18
All other waste*	84	156	12
TOTAL	403	584	30

Source - Mineral Surveys 1988, 1994

* Mainly domestic, commercial, industrial, construction waste and dredgings. Includes perimeter areas.

4.2 Fortunately, in recent years, standards have improved in response to public concern, better planning controls, more stringent environmental requirements, and a more responsible waste management industry. Current standards and expectations, in relation to the reclamation of mineral voids with waste, are set out in MPG7[1] and generally for landfill sites in PPG23[2] and PPG10[3]. These emphasise the importance of reclamation in its own right and the need for a high level of commitment by all parties concerned. Indeed, if there are doubts about whether a satisfactory reclamation scheme can be achieved, planning permission should not be granted.

4.3 The County and City Councils fully endorse the above guidance, which forms the basis for the reclamation policies in this Plan. These policies will not only consider new proposals, but also the means to improve existing reclamation schemes which are unsatisfactory, in accordance with Structure Plan Review Policy 12/2. The policies of the Minerals Local Plan are also relevant where they consider the reclamation of mineral sites with waste material (see Policies M4.5 and M4.6 of that Plan).

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1 *Minerals Planning Guidance Note No. 7 - The Reclamation of Mineral Workings, 1989.*

2 *Planning Policy Guidance Note No 23, Planning and Pollution Control, 1994.*

3 *Planning Policy Guidance Note 10, Planning and Waste Management, 1999.*

4.4 This Chapter relates primarily to the reclamation of waste disposal sites. Other waste management facilities, such as household waste recycling centres and transfer stations, are normally permanent developments, unless related to the life of a disposal site. Where waste disposal includes the reclamation of mineral voids, the relevant policies in the Minerals Local Plan will also apply. The following text and policies therefore mainly consider circumstances where waste disposal involves the reclamation of other voids or sites.

GENERAL PRINCIPLES

4.5 It is essential that reclamation schemes are fully designed at the planning application stage and that issues such as landscape treatment are not included as reserved matters. Proposals should be both technically and economically feasible and their impact fully assessed. The objective should be to create a scheme which is compatible with the surrounding area. Regardless of what after-uses are proposed the following key factors will be common to most reclamation schemes:

Phasing

4.6 Where practicable, waste disposal sites should be reclaimed in progressive phases to minimise the environmental impact. Early reclamation of those parts of the site which are most visible from sensitive areas may be an important consideration.

POLICY W4.1

WHEN PLANNING PERMISSION IS GRANTED FOR WASTE DISPOSAL CONDITIONS WILL BE IMPOSED, WHERE RELEVANT, TO ENSURE A PHASED SEQUENCE OF DISPOSAL OPERATIONS, RECLAMATION, AND IMPLEMENTATION OF THE PLANNED AFTER-USE.

Availability and Timescales

4.7 Whilst planning conditions can control the phasing of operations, they cannot normally require third parties to supply the waste at the rates assumed at the planning application stage. Waste might, for example, be diverted to other sites if they become more economically attractive.

4.8 As a first step, it is important that adequate evidence is supplied to demonstrate that the disposal rates are realistic and to assess what uncertainties exist. For example, this may include the adequacy of other local waste disposal sites and estimates of the amount of waste likely to be generated, in reasonable proximity to the site.

POLICY W4.2

PROPOSALS FOR WASTE DISPOSAL WILL ONLY BE PERMITTED WHERE SATISFACTORY EVIDENCE HAS BEEN PROVIDED TO SHOW THAT SUFFICIENT WASTE MATERIAL IS LIKELY TO BE AVAILABLE TO ACHIEVE RECLAMATION OF THE SITE WITHIN AN ACCEPTABLE TIMESCALE.

4.9 Disposal schemes reliant upon a single third party, such as PFA from one power station, may be partly controlled by an appropriate planning obligation. Such agreements cannot guarantee quantities or availability of the waste, but can secure control and prevent the waste going to alternative sites.

POLICY W4.3

WHERE PLANNING PERMISSION INVOLVES THE RECLAMATION OF A SITE BY THE IMPORTATION OF WASTE WHICH IS DEPENDENT UPON A SINGLE SOURCE, PLANNING OBLIGATIONS WILL BE SOUGHT TO CONTROL THE PHASING OF WASTE IMPORTS BETWEEN EXISTING OR POTENTIAL FUTURE SITES DEPENDANT ON THE SAME SOURCE.

Pollution Control and Health Risks

4.10 For non-inert waste disposal sites, measures to contain, monitor and deal with landfill gas and leachate must be accommodated within the reclamation scheme (see Chapter 3, Paras 3.29-3.30). For example, de-oxygenation of the soil by landfill gas may result in vegetation die-back, poor germination and failure of an agriculture after-use. These will have a bearing on the phasing of the reclamation scheme and the after-use of the site.

Settlement

4.11 When non-inert waste decomposes after disposal, it normally results in the dropping of surface levels. This is known as 'settlement'. The degree of settlement is dependent upon the type of waste and the way in which it is deposited and compacted.

4.12 It is therefore important that, in order to ensure that the after-use and approved final contours are achievable, settlement is predicted at the planning application stage. The amount of compaction and other measures necessary to achieve the proposed after-use and contours should also be assessed at the planning application stage.

POLICY W4.4

PLANNING PERMISSION FOR WASTE DISPOSAL WILL NOT BE GRANTED UNLESS THERE IS SUFFICIENT INFORMATION TO DEMONSTRATE THAT THE RECLAMATION SCHEME HAS TAKEN ACCOUNT OF THE PREDICTED SETTLEMENT.

Soil Conservation and Use of Soil-Making Materials

4.13 Soils are an important and valuable reclamation material and their proper handling and conservation are essential. This is especially true for topsoil and where an agricultural after-use is proposed. Proper handling of soils will reduce the need for importation of new soil making materials, and avoid the use of valuable finite resources such as peat. If soils are damaged or lost, the standard of reclamation is likely to be seriously prejudiced and difficult to rectify.

4.14 For most greenfield sites, a detailed soil survey will be required to identify soil types, profiles and depths. Where different soils are recorded, separate stripping, storage and replacement will be required to allow reinstatement of the original soil profile or any alternative.

4.15 The progress from soil stripping to reinstatement can follow two paths. In the first, direct replacement is used. This involves immediate soiling of tipped and capped areas with the stripped soils from the next phase of tipping. As soils are only handled once this will usually result in less damage than if double handling occurs (ie stripping, storage, then eventual replacement). Phased schemes which use direct replacement of soils will therefore normally be favoured wherever this is practical. Where it is not possible to use direct replacement, schemes must make adequate provision for soil storage. Account will have to be taken of washland restrictions where sites are located in river valleys. In order to avoid compaction, soils should be loose tipped and the use of scrapers avoided.

4.16 Where soils are absent or insufficient, it may be possible to create adequate soil-making materials from overburden, treated with ameliorants such as sewage sludge or waste-derived compost (see Chapter 7 for more detail). Also, soils can be concentrated within areas where they are most needed, with soil-making materials being used in areas which do not require such a high fertility.

POLICY W4.5

WHERE PLANNING PERMISSION INVOLVES THE RECLAMATION OF A WASTE DISPOSAL SITE SCHEMES SHOULD INCLUDE MEASURES TO ENSURE THE PROPER STRIPPING, STORAGE AND REPLACEMENT OF THE ORIGINAL, OR SUITABLE ALTERNATIVE, SOIL PROFILE. WHERE SOILS ARE ABSENT OR DEFICIENT, SCHEMES SHOULD INCLUDE MEASURES TO ENSURE THAT A VIABLE VEGETATION COVER CAN BE ESTABLISHED. SUCH MEASURES MAY INCLUDE:-

(a) CONCENTRATING SOILS WITHIN AREAS WHERE THEY WILL PROVIDE MOST BENEFIT AND;

(b) UTILISING ON-SITE, OR IMPORTED SOIL MAKING MATERIALS WHICH, WITH SUITABLE TREATMENT, ARE CAPABLE OF SUPPORTING PLANT GROWTH.

Landscape Treatment

4.17 Landscape proposals should include a descriptive outline of the design concept behind the scheme, known as the 'landscape philosophy'. This philosophy together with the Master Plan[4] for the site should demonstrate that the scheme will be assimilated back into the surrounding landscape and that it will be compatible with the proposed after-use. Nature conservation issues may, for example, influence what species are planted. Full details will be required, either at the planning application stage or in phases in accordance with Policy W4.1

4.18 Screening and landscape measures designed to reduce visual impact during the operational stages of the site can also contribute to the final reclamation scheme, as noted in Chapter 3 (see Policy W3.4 and Paras 3.17-3.19).

POLICY W4.6

WHERE PLANNING PERMISSION INVOLVES THE RECLAMATION OF A WASTE DISPOSAL SITE, LANDSCAPE PROPOSALS SHOULD INCLUDE:

(a) AN OVERALL LANDSCAPE CONCEPT OR MASTER PLAN;

(b) DETAILS OF THE FINAL LANDFORM WHICH SHOULD HARMONIZE WITH THE EXISTING LANDSCAPE CHARACTER;

(c) THE LOCATION, FORM, NUMBER, SPECIES, SIZE, METHOD OF PLANTING, SITE PREPARATION AND ANY NECESSARY MEASURES FOR REPLACING PLANT MATERIAL WHICH FAILS FOLLOWING INITIAL PLANTING.

PREMATURE CESSATION OF WASTE DISPOSAL

4.19 Waste importation can rarely be guaranteed (see Paras 4.7 - 4.9) and it is therefore possible that disposal may cease prematurely and prejudice the approved reclamation scheme. Furthermore, unless conditions are imposed to define cessation of disposal operations and to require the implementation of an alternative reclamation scheme, such sites could be left derelict. Accordingly, the potential problem of premature cessation needs to be considered, for all waste disposal proposals.

POLICY W4.7

WHEN PLANNING PERMISSION IS GRANTED FOR WASTE DISPOSAL, CONDITIONS WILL BE IMPOSED TO ENSURE AN ALTERNATIVE RECLAMATION SCHEME IS SUBMITTED AND IMPLEMENTED IN THE EVENT OF THE PREMATURE CESSATION OF IMPORTATION OF WASTES, OR WHEN THE ORIGINAL RECLAMATION CONDITIONS BECOME IMPRACTICAL TO IMPLEMENT.

4 *See Glossary for definition.*

RECLAMATION OF EXISTING DISPOSAL SITES

4.20 As noted in Para 4.1, many waste disposal sites are controlled by old planning permissions with inadequate and impractical conditions. A common problem is poor soil conservation and landscape treatment. These sites obviously give rise to concern. The WPA will therefore encourage and support initiatives which assist the improved reclamation of areas damaged by waste disposal operations.

POLICY W4.8

PLANNING PERMISSION WILL BE GRANTED FOR ALTERNATIVE RECLAMATION PROPOSALS WHICH WOULD RESULT IN THE SATISFACTORY RECLAMATION AND AFTER-USE OF WASTE DISPOSAL SITES, WHERE:

(a) THE CURRENT APPEARANCE IS UNSATISFACTORY; AND

(b) THE EXISTING PROVISIONS FOR RECLAMATION ARE UNSATISFACTORY, INAPPROPRIATE OR ABSENT.

AFTERCARE

4.21 Although aftercare conditions have been attached to mineral permissions since 1982, it was only in 1991[5] that these measures could also be applied to waste disposal schemes which did not form the reclamation of a mineral site.

4.22 The purpose of aftercare is to ensure that newly restored land is properly cultivated, planted, and managed during the first few critical years. For example, soils which inevitably suffer damage during handling require careful husbandry to aid recovery, and tree planting schemes need weed control and replacement of failures until established. The aftercare condition can specify the steps to be taken following restoration, or the steps to be taken in accordance with a scheme to be approved by the WPA.

4.23 In most cases, the aftercare condition will cover a maximum period of five years from completion of basic reclamation. Whilst this period can be varied, aftercare conditions cannot be used to secure the long-term management of land. Such requirements can be controlled by planning obligations (see Chapter 3, Policy W3.2).

4.24 It is intended that model aftercare programmes will be devised for waste disposal sites in the near future, similar to the minerals aftercare programme[6].

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5 *Under the Planning and Compensation Act 1991.*

6 *The County Council has produced guidance notes and a model programme for mineral operators (see Minerals Local Plan Chapter 4 Para 4.49).*

4.25 After five years of aftercare, the WPA can issue a certificate affirming that the land has been reclaimed to a satisfactory standard. Through time, these programmes should provide a valuable record of the most effective approach to aftercare. In particular, land with a documented history of proper management after initial reclamation is likely to have a greater value than land with no such record. It is hoped, therefore, that the waste industry recognises both its planning responsibilities and the environmental and economic benefits of complying with aftercare conditions.

4.26 Paragraph B37 of MPG7 sets out that amenity uses include open grassland for informal recreational use, basic preparations for more formal sports facilities, amenity woodland, lagoons for water recreation and the conservation of landscape and wildlife.

POLICY W4.9

AFTERCARE CONDITIONS WILL BE IMPOSED UPON ALL PLANNING PERMISSIONS FOR WASTE DISPOSAL WHERE RECLAMATION IS TO BE TO AGRICULTURE, FORESTRY, OR AMENITY.

AFTER-USE

4.27 After-use options include agriculture, forestry, amenity (including nature conservation) industrial or other built development. At some sites more than one after-use may be possible. It is therefore essential that a Master Plan setting out how the after-use will be achieved is presented at the planning application stage for the following main reasons:

4.28 Firstly each after-use will have its own physical requirements which must be assessed before disposal commences. Secondly, in addition to the detailed guidance provided in this Plan, the after-use should accord with the policies of the Structure Plan Review and other relevant Local Plans. Informal Plans such as, "The Sherwood Study : A Vision for Sherwood Forest", "The Strategic Plan for Greenwood" "Local Biodiversity Action Plan", "the Heathland Strategy for Nottinghamshire" and guidance in the "Countryside Appraisal" should also be taken into account. Finally, there must be clear evidence that the proposed after-use will be properly implemented and managed in the long-term.

4.29 It should be noted that once a site is reclaimed, any subsequent development or changes in after-use requiring planning permission will normally be for the District Council to determine.

4.30 To achieve a high standard of reclamation and after-use, it is important that all interested parties are fully committed. Every effort to eliminate potential conflicts should be made through discussion and negotiation prior to the granting of planning permission. In addition, the long-term funding and management of sites will need to be considered, and potential income generation from after-uses explored.

POLICY W4.10

WHERE PLANNING PERMISSION INVOLVES THE RECLAMATION OF A WASTE DISPOSAL SITE THE SCHEME SHALL INCLUDE FULL DETAILS OF THE PROPOSED AFTER-USE AND BE DESIGNED TO MAXIMISE OPPORTUNITIES TO ENHANCE THE ENVIRONMENT.

POLICY W4.11

WHERE IT IS CONSIDERED THAT MANAGEMENT OR OTHER AGREEMENTS ARE NECESSARY FOR THE SUCCESSFUL IMPLEMENTATION OF AN AFTER-USE OF A WASTE DISPOSAL SITE, THEN THE WASTE PLANNING AUTHORITY WILL SEEK TO NEGOTIATE THE INCORPORATION OF SUCH PROVISIONS AS ARE APPROPRIATE WITHIN A PLANNING OBLIGATION.

Agricultural After-Use

4.31 Agricultural after-use schemes present important opportunities to redress the widespread environmental damage caused by modern agricultural practices. Where possible, such schemes should reintroduce features associated with the 'traditional' enclosure landscape, such as hedgerows and small copses. These typically characterise the mature landscape areas identified in the 'Countryside Appraisal' (see Chapter 3, Paras 3.86-3.88). Such measures need, of course, to be compatible with agricultural production and the long term aspirations of the landowner. In this respect Policy W4.10 is of particular importance. The Government has produced a good practice guide for the reclamation of mineral workings to agriculture[7].

POLICY W4.12

WHERE PLANNING PERMISSION INVOLVES THE RECLAMATION OF A WASTE DISPOSAL SITE TO AGRICULTURE, PROPOSALS WILL BE REQUIRED TO TAKE FULL ACCOUNT OF THE POTENTIAL FOR CONSERVING AND WHERE RELEVANT ENHANCING LOCAL LANDSCAPE CHARACTER AND WILDLIFE INTEREST BY THE INCLUSION OF SOME OR ALL OF THE FOLLOWING:

(a) WOODLAND PLANTING COMPATIBLE WITH MODERN AGRICULTURAL PRACTICES;

(b) MIXED SPECIES HEDGEROWS AND HEDGEROW TREES;

(c) WILDFLOWER AND/OR HERB RICH GRASSLAND;

(d) HEATHLAND.

7 *Guidance on Good Practice for the Reclamation of Mineral Workings to Agriculture, HMSO, 1996.*

4.32 The Policy with respect to the agricultural after-use of mineral voids reclaimed with waste is set out in the Minerals Local Plan.

4.33 The feasibility of reclaiming a waste site to a given agricultural standard is largely dependent upon soil resources and soil handling methodology. However, landfill involving non-inert waste is inherently more difficult to reclaim than mineral operations, which do not involve degradable waste. This is because of the constraints imposed by the necessary environmental control infrastructure and procedures.

4.34 This infrastructure, which is necessary to control and monitor landfill gas and leachate may curtail, obstruct or obviate agricultural operations or land drainage. If the environmental control measures and the consented land use are not planned in an integrated manner, restoration to the required agricultural standard may not be possible (see PPG23 Annex 11, paras 5-11).

POLICY W4.13

WHERE PLANNING PERMISSION INVOLVES THE RECLAMATION OF A WASTE DISPOSAL SITE TO AGRICULTURE, PROPOSALS MUST TAKE ACCOUNT OF THE IMPACT OF ANY LANDFILL GAS AND LEACHATE CONTROL AND MONITORING INFRASTRUCTURE ON AGRICULTURAL OPERATIONS AND LAND DRAINAGE.

Woodland After-Use

4.35 In the past, reclamation schemes only included woodland where the lack of good quality soil precluded an agricultural after-use. More recently, however, there has been an increasing desire to plant trees as the demand for agricultural production has declined.

4.36 Where woodland has been lost to waste disposal, reclamation to woodland will normally be required. In other cases, woodland will be favoured where it would enhance the environment and/or good quality agricultural reclamation is not practicable.

4.37 More specifically, woodland planting is encouraged in the Sherwood Forest area[8] and within the proposed "Greenwood Community Forest"[9]. Planting proposals will be considered in relation to Structure Plan Review Policy 3/11 which requires measures such as the use of broadleaves in sensitive landscape areas and provision of public access and recreation. Where existing waste disposal reclamation schemes lack adequate tree-planting, Forestry Commission Woodland Grants may be available.

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8 *The Sherwood Forest area is defined in "The Sherwood Study : A Vision for Sherwood Forest", produced by Nottinghamshire County Council, October 2000.*

9 *The Greenwood is one of 12 "Community Forests" being established in England. These are joint ventures promoted by the Countryside Commission, Forestry Commission and Local Authorities. The "Strategic Plan for Greenwood" Forest Plan was published in June 2000.*

4.38 Recent research[10] has shown that trees may be successfully planted on non-inert waste disposal sites without penetrating or damaging the cap or synthetic lining material. This research gives advice on soil depths, gradients, compaction soil placement techniques and other measures necessary to ensure tree planting schemes on disposal sites are successful.

POLICY W4.14

WHERE PLANNING PERMISSION FOR A WASTE DISPOSAL SITE INVOLVES RECLAMATION TO WOODLAND THE SCHEME SHOULD DEMONSTRATE THAT THE WOODLAND CAN BE ESTABLISHED WITHOUT DAMAGING ANY CAP OR LINING MATERIAL. APPROPRIATE MEASURES SHALL INCLUDE ADEQUATE SOIL DEPTH, DRAINAGE, SOIL PLACEMENT TECHNIQUES AND GRADIENT.

Heathland After-Use

4.39 Waste disposal sites, can provide opportunities to create areas of lowland heathland which, as noted in Chapter 3, Para 3.65, have become very scarce throughout Great Britain. The Nottinghamshire Local Biodiversity Action Plan (LBAP) establishes a target for the creation of 200 hectares of heathland by 2005. Restoration schemes provide a prime opportunity for this. Heathlands may be particularly suitable, where soils are poor or absent and agriculture is not a feasible option. Heathlands can, however, only establish and survive in the long term with careful management. Adequate funding and other provisions must therefore accompany proposals as set out in Policy W4.11, and described for nature conservation after-uses (see below).

Nature Conservation After-Use

4.40 In the past, few waste disposal sites have been reclaimed to nature conservation after-use because of the Government's emphasis on returning land to a productive agricultural use. However, this emphasis is no longer as strong (see Chapter 3, Paras 3.59-61). Therefore, reclamation schemes involving the creation of wildlife habitats in line with the species, habitats and targets of the Biodiversity Action Plan, as set out in paragraph 3.71, will have an increasing role to play in the future.

4.41 Proposals should include a Master Plan to show how the site will be established and managed, and the extent of public access. It should refer to the phasing of reclamation works and specify particular habitats. There should also be a descriptive statement and a qualified ecologist should be directly involved in the design and implementation stage. English Nature, Notts Wildlife Trust and the Royal Society for the Protection of Birds are amongst organisations which can provide land management and other advice.

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10 *The Potential for Woodland Establishment on Landfill Sites, M G Dobson and A J Moffat, HMSO, 1993.*

4.42 Funding is essential to the success of a nature conservation after-use which is rarely self-supporting, and thus Policy W4.11 will normally apply. Long-term management, provision of interpretive facilities and appointment of wardens all require financial backing.

4.43 Ideally, the site should be given formal recognition as a nature reserve so that its status cannot be challenged at a later date. The long-term management should be provided by a management committee, and an agreed management plan.

Recreational After-Use

4.44 Structure Plan Review Policy 7/1 encourages the development of recreational facilities. Most recreational after-uses of waste disposal sites are land based, informal leisure facilities, such as football pitches, golf courses, or ski-slopes. Schemes often include footpaths, cycle and bridleways, particularly when near to urban and village centres and/or public transport routes. There may be opportunities to link other recreational sites through well maintained multi user routes.

4.45 Recreational after-uses should be properly considered at the planning application stage. The Master Plan should take into consideration highway implications, access to the site, location of car parking and areas of landscape treatment. The physical requirements of the proposed activity should also be considered.

4.46 Where the after-use is organised in a club structure, such as a golf club, this may provide long-term financial management of the site. Measures to ensure provision of adequate funding for long-term management may need to be included in a legal agreement, specifying a competent organisation to accept this responsibility.

Built Development

4.47 Non-inert waste disposal sites cannot normally be reclaimed to a condition suitable for built development. This is because such development is likely to destroy the integrity of the cap and damage liners. There would also be difficulty in providing services, particularly deep foul sewers, and the risk to the stability of structures may be threatened by settlement. Contamination and methane production may also be an issue.

4.48 Any proposals for built development upon a waste disposal site must provide evidence that compaction, ground stability, contamination and methane production issues can be overcome.

POLICY W4.15

PLANNING PERMISSION WILL NOT BE GIVEN FOR THE RECLAMATION OF A WASTE DISPOSAL SITE TO BUILT DEVELOPMENT UNLESS EVIDENCE IS PROVIDED THAT COMPACTION, GROUND STABILITY, CONTAMINATION AND METHANE PRODUCTION CONSTRAINTS CAN BE OVERCOME.

CHAPTER 5

RECYCLING

Giltbrook Household Waste Recycling Centre. Oil is one of a number of common domestic waste materials which can be recycled.

INTRODUCTION

5.1 Recycling involves the processing of waste materials to produce a usable raw material or product. For example, glass bottles and aluminium cans can be collected and processed back to the original raw material. Recycled material can, in principle, be re-used many times, unlike material which has been composted or burnt to provide energy. Energy recovery from waste and composting are forms of recovery and are considered separately in Chapters 6 and 7 respectively.

5.2 Recycling has for a long time been an important feature of the economy, involving a wide range of business sectors. For example, the UK's packaging manufacturing industry uses approximately 30% recycled material, has an annual turnover of £8.5 bn and employs 150,000 people. Steel and non-ferrous scrap are among the best known of established commercial recycling businesses.

5.3 Recycling plays an important rôle in helping to achieve a more sustainable system of waste management. Apart from reducing the amount of waste requiring disposal, it helps to conserve natural resources and raw materials. At present, about 20% of the UK's controlled waste is recycled, although much of this is construction and demolition waste. Recycling rates for household and commercial waste are very poor (see Chapter 1, Table 1.2).

5.4 The market for recycled products and the capacity of recycling facilities are at present very limited. The price and availability of virgin raw material has always been a powerful commercial incentive for recycling, but market imperfections and barriers can discourage businesses from exploiting the potential of recycling to the full.

5.5 Encouraging recycling, where there are economic and environmental benefits, has been a key component of the Government's waste management policies for many years. The Government continues to encourage greater emphasis on recycling where this represents the "Best Practicable Environmental Option" (BPEO)[1] for particular waste streams.

ADVANTAGES AND DISADVANTAGES OF RECYCLING

5.6 Recycling is not a waste management option to be pursued at any cost. It only makes sense to recycle waste where this represents the most sustainable option for a particular type of waste, once all the relative environmental and economic costs have been taken into account.

5.7 The potential advantages of recycling include:

- extending the life and maximising the value extracted from raw materials;
- potential energy savings;
- reduced emissions to air and water;

1 *See Chapter 2, Paras 2.20-2.21 for definition*

- reduced disposal impacts;
- consumer participation through enhanced public awareness and understanding of environmental issues;
- reducing the environmental impact from mining primary materials.
- The removal of non combustible recyclable materials such as glass and metal from the household waste stream, will significantly increase the heat content of the waste thus making incineration with energy recovery a more viable option.

5.8 The potential disadvantages of recycling include:

- the costs of collection, transport and reprocessing;
- the often higher cost of recycled materials;
- the instability of markets for recycled materials which can rapidly be distorted by changes in the international or domestic supply and demand for these materials;
- recycling facilities may have associated adverse impacts, such as transport movements and unsightliness;
- the removal of combustible recyclable materials such as paper and plastics from the household waste stream, will significantly reduce the heat content of the waste thus making incineration with energy recovery a less viable option.

RECYCLING HOUSEHOLD WASTE

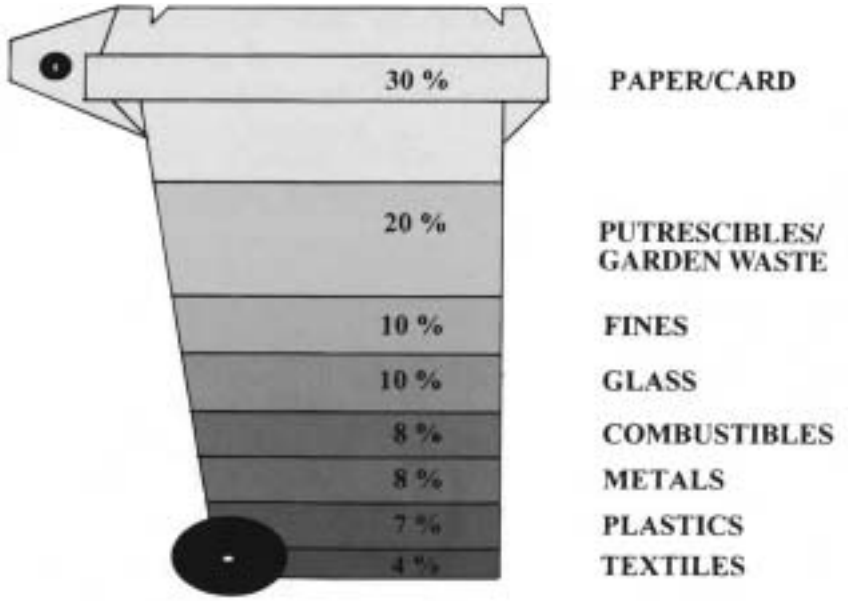
5.9 Only 9% of household waste in the United Kingdom is recycled, although studies have shown that over 50% could be recycled (see Fig. 5.1). In 1994, Central Government set a target[2] for local authorities to recycle 25% of household waste by the year 2000. Waste Strategy 2000 now sets a target of recycling or composting 25% of household waste by 2005 with further increases by 2010 and 2015. Collection authorities, which in Nottinghamshire comprise Nottingham City Council and the District Councils, are required to produce "Recycling Plans" setting out how they will attempt to achieve this recycling target. These are not land-use plans, but rather statements of intent within the broader context set by the Integrated Waste Management Strategies that are being prepared by the County and District Councils and the City Council.

5.10 The Recycling Plans detail the principle measures for achieving recycling through existing mechanisms such as Household Waste Recycling Centres and Mini Recycling Centres. These Plans also set out the potential role of innovative schemes like kerbside collection, where households are given a container into which recyclable materials can be sorted and stored for separate collection. Waste Strategy 2000 recognises that a system based on new facilities and extensive separate kerbside collection of recyclables will be an important element in meeting recovery targets. In order to support

2 *Source: Sustainable Development - The UK Strategy, HMSO, 1994.*

potential kerbside collection schemes (which would be implemented by the Waste Collection Authorities or other voluntary environmental organisations), the Waste Local Plan allocates the Eastcroft Site for a Material Recovery Facility (see Policy W5.4). This may increase the economic viability of recycling schemes, including kerbside collection, by allowing localised sorting of materials (see paragraphs 5.19 - 5.22).

Fig. 5.1 - UK Percentage Contents in Average Refuse Bin



Note: The Government estimates that at least 50% of the above waste materials are recyclable.
Source: Waste Management paper No. 28 HMSO 1991.

5.11 The Waste Local Plan aims to assist the City and District Councils in achieving recycling targets through the promotion of Areas of Search and criteria policies for recycling facilities. Details are set out below:

Household Waste Recycling Centres

5.12 There are nineteen Household Waste Recycling Centres (HWRCs)[3] within Nottinghamshire which take, free of charge, bulky household and garden waste, delivered by the public. The waste is sorted on site and, where possible, recycled or re-used. The remainder is taken to nearby waste disposal sites. In 1994 Nottinghamshire's HWRCs recycled approximately 8% of the waste brought in. By 1999 the amount recycled increased to 22%.

5.13 Most HWRCs are located close to populated areas (see Plan 5.1) and normally comprise a number of skips alongside parking bays (see Figure 5.2). The waste materials accepted include paper, glass, cardboard, textiles, metals, soils, batteries, fridges and upholstery. Licensed "totters"[4] are employed to sort the waste as it arrives. Sites are normally open seven days a week. The main concerns raised relate to traffic, access and visual impact.

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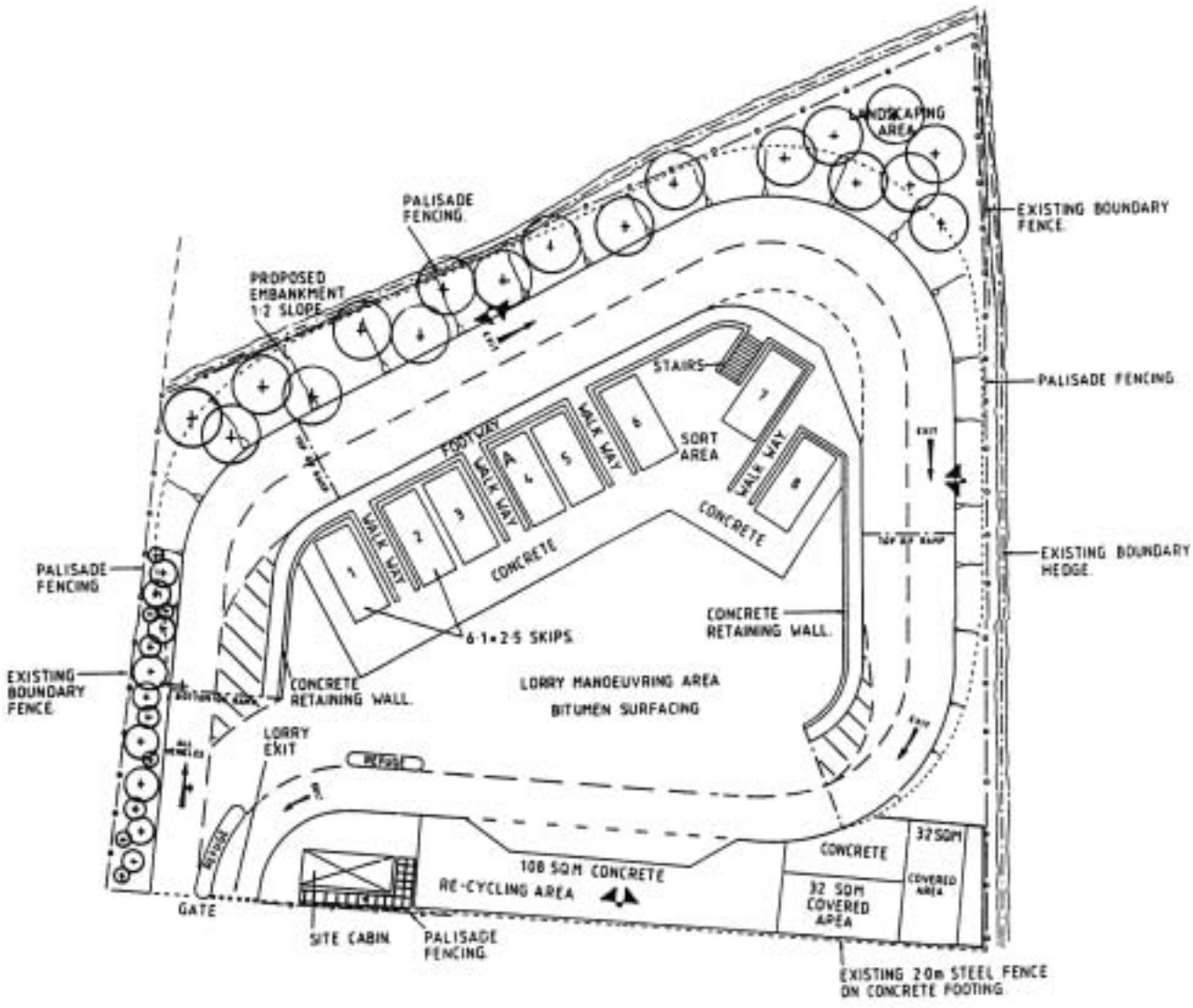
3 *HWRCs - Section 51 of the EPA 1990 require local authorities to provide free facilities where residents may bring household waste at all reasonable hours.*

4 *See Glossary.*

Figure 5.2 - Illustration of a Typical HWRC.



5.14 If the Government's 25% recycling target for household waste is to be achieved, then additional HWRCs will be required during the Plan period to serve existing and new developments. Suitable sites are most likely to be located within existing employment sites or those designated in the City and District Councils' Local Plans, where visual and traffic impact is minimal. Disposal sites are also potentially suitable location for HWRCs (as at Burntstump Landfill Site) provided the life of the development is limited to waste disposal operations. In order to encourage more HWRCs Policy W5.1 below identifies employment sites within which this type of development is considered to be appropriate. Proposals in other existing employment sites or those designated in the City and District Councils' Local Plans will be permitted where it can be demonstrated that there is no unacceptable environmental impact. Policy W5.2 promotes HWRCs in existing and future waste disposal sites.

POLICY W5.1

PROPOSALS FOR NEW HOUSEHOLD WASTE RECYCLING CENTRES WILL BE PERMITTED IN THE FOLLOWING EMPLOYMENT SITES:

(a) HARWORTH;
(b) FIRBECK;
(c) OLD MILL LANE, MANSFIELD;
(d) COLWICK SITE 1;
(e) COLWICK SITE 2;
(f) EASTCROFT.

PROPOSALS OUTSIDE THESE PREFERRED AREAS WILL BE PERMITTED IN OTHER EXISTING EMPLOYMENT SITES OR THOSE DESIGNATED IN THE CITY AND DISTRICT COUNCILS' LOCAL PLANS WHERE IT CAN BE DEMONSTRATED THAT THERE IS NO UNACCEPTABLE ENVIRONMENTAL IMPACT.

POLICY W5.2

PROPOSALS FOR HOUSEHOLD WASTE RECYCLING CENTRES WILL BE PERMITTED AT WASTE DISPOSAL SITES PROVIDED THERE IS NO UNACCEPTABLE ENVIRONMENTAL IMPACT AND THEY ARE TIED TO THE LIFE OF DISPOSAL OPERATIONS.

Mini-Recycling Centres

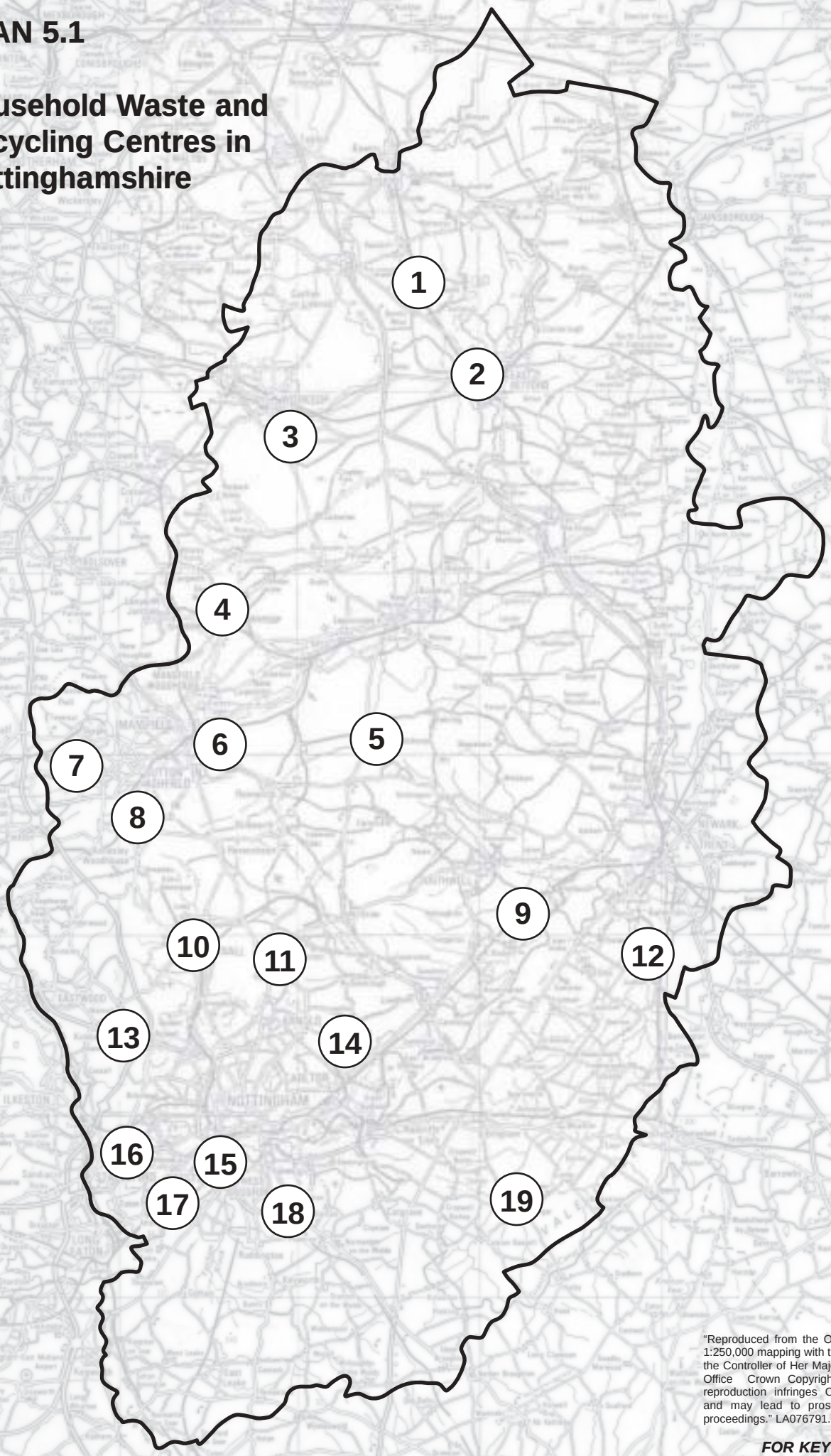
5.15 From just a few experimental schemes in the early 1980s, Mini-Recycling Centres (MRCs) have become familiar features at most shopping centres and other public locations. They include bottle, paper, can and occasionally textile and plastic banks. They are provided by the County, City and District Councils, the retail industry and voluntary sector.

5.16 Most MRCs raise few environmental concerns and consist of no more than a few small banks in the corner of a car park. Traffic generation is rarely an issue, as schemes are purposely located in areas where the public would already be visiting. Where proposals are more significant and/or are in sensitive areas, planning permission may be required. The County Council and/or the relevant District Council, or the City Council should therefore be consulted to clarify the need for planning permission, regardless of the size of the scheme.

5.17 The City and most District Councils in Nottinghamshire have proposed to increase the number of MRCs in their Recycling Plans. This will help Local Authorities meet the Government's target for recycling 25% of household waste. The number of MRCs will have to increase very significantly if the Government's target, set out in Waste Strategy 2000, is to be achieved.

PLAN 5.1

Household Waste and Recycling Centres in Nottinghamshire



FOR KEY SEE OVER

KEY TO PLAN 5.1

Household Waste and Recycling Centres in Nottinghamshire

Location

1. Daneshill, near Retford
2. Hallcroft Road, Retford
3. Dukeries Industrial Estate, Clayland Avenue, Worksop
4. Oakfield Lane, Worksop
5. Brailwood Road, Bilsthorpe
6. Kestral Park, Mansfield
7. Sutton, Off Huthwaite Road
8. Sidings Road, Lowmoor Industrial Estate
9. Fiskerton Landfill Site
10. Baths Lane, Hucknall
11. Burntstump, A614 Calverton
12. Hawton Lane, Newark
13. Gilthill, Giltbrook
14. Gedling Colliery
15. Redfield Road, Lenton Industrial Estate
16. Nottingham Road, Stapleford
17. Lilac Grove, Beeston
18. Greythorn Drive, West Bridgford
19. Coach Gap Lane, Langar

Scale: 1:312,500 (1” to 5 miles) 1cm = 3.125km

5.18 Where planning permission is required, proposals for MRCs will be supported subject to environmental safeguards.

POLICY W5.3

WHERE PLANNING PERMISSION IS REQUIRED PROPOSALS FOR MINI RECYCLING CENTRES WILL BE PERMITTED SUBJECT TO ADEQUATE ENVIRONMENTAL SAFEGUARDS.

Material Recovery Facilities

5.19 A Material Recovery Facility (MRF) is designed to take mixed household recyclables and sort them into their respective materials, to allow their recycling. Plants can either receive unsorted wastes, or pre-sorted recyclable wastes. Plants taking unsorted wastes can avoid the costs of kerbside collection. Whilst those taking just recyclable wastes can assist with recycling initiatives by receiving materials already separated at source.

5.20 Two major MRFs costing several million pounds have been set up at sites near Leeds and Milton Keynes. Smaller scale and cheaper plants are also located around the country.

5.21 MRFs are usually enclosed within a building. After waste is initially stored, it is fed onto a conveyor which takes the waste through the various stages of separation. Waste is generally separated into glass, plastics, aluminium, steel, cardboard and paper and stored temporarily in large skips. HGV transport periodically picks up the material to be taken for recycling. The main environmental concerns relate to the visual impact of the building, and associated car parking, noise, odour and traffic impact.

5.22 Within Nottinghamshire, the most suitable location for MRFs is likely to be within the employment sites immediately west of the Eastcroft incinerator. An MRF may also be suitably located within the actual incinerator complex and/or within other existing employment sites or those designed in the City and District Council's Local Plans. Waste Disposal sites may also provide suitable locations provided that the MRF is tied to the life of disposal operations.

POLICY W5.4

PROPOSALS FOR A MATERIAL RECOVERY FACILITY WILL BE PERMITTED WITHIN THE EASTCROFT INCINERATOR SITE OR WITHIN THE EASTCROFT EMPLOYMENT SITE.

POLICY W5.5

PROPOSALS FOR MATERIAL RECOVERY FACILITIES WILL BE PERMITTED IN EXISTING EMPLOYMENT SITES OR THOSE DESIGNATED IN THE CITY AND DISTRICT COUNCIL'S LOCAL PLANS PROVIDED THERE IS NO UNACCEPTABLE ENVIRONMENTAL IMPACT.

POLICY W5.6

PROPOSALS FOR MATERIALS RECOVERY FACILITIES WILL BE PERMITTED AT WASTE DISPOSAL SITES PROVIDED THERE IS NO UNACCEPTABLE ENVIRONMENTAL IMPACT AND THEY ARE TIED TO THE LIFE OF DISPOSAL OPERATIONS.

RECYCLING CONSTRUCTION AND DEMOLITION WASTE

5.23 Most construction and demolition waste can be recycled to form secondary aggregates. Crushed bricks and rubble can be re-used on building sites for levelling purposes, or graded for use in road construction. Using waste in this way conserves mineral resources and so reduces the potential for environmental impact from mineral extraction. For this reason, the use of secondary aggregates is being increasingly encouraged in Government guidance (MPG6).[5] The Government is also researching into how standards and specifications could be modified to favour the use of recycled materials[6]. Felt-roofing and timber can also be reclaimed.

5.24 Unfortunately, only half of this waste is presently recycled and most waste is put to very low grade uses such as on-site levelling. This is, in part, because of concern that such material will not meet the standard specifications for construction projects. In addition, the availability of cheap locally won primary minerals makes it very difficult for recycled material to compete economically.

Aggregate Recycling Centres

5.25 Aggregate Recycling Centres (ARCs) crush, screen and sort construction and demolition waste to form secondary aggregates. There are six permanent aggregate recycling centres within Nottinghamshire at Bunny, Fulwood, Mansfield Woodhouse, Worksop and two at Colwick.

5.26 In addition, a number of temporary recycling plants operate at some demolition and waste disposal sites. These are mainly used for the purposes of grading waste and soils for disposal and site restoration, although surplus material may be exported for use in the construction industry. Temporary sites do not normally require planning permission unless in-situ for more than 28 days.

5.27 Permanent ARCs should be located within employment sites because of the potential for noise, dust, traffic and visual impact. An urban or edge of town location is likely to be essential to minimise haulage costs. In addition mobile recycling plants may also be suitably located within construction sites, waste disposal and mineral sites, provided that these are linked to the life of such operations and do not lead to any unacceptable environmental impact.

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5 *Minerals Planning Guidance Note No. 6 - Guidelines for Aggregates Provision in England, 1994.*

6 *Arup Economics & Planning: Occurrence & Utilisation of Mineral & Construction Wastes - HMSO 1991.*

5.28 MPG6 forecasts that demand for aggregates in England and Wales could increase from an estimated 240 million tonnes in 1991 to between 370-440 million tonnes by 2011. This represents an increase of 50 to 80%. As the primary resources become depleted, the need to make the best use of waste materials will become ever more urgent. In order to help meet this demand, MPG6 recommends that the annual contribution from secondary aggregates should rise from an estimated 25-30 million tonnes at present to 55 million tonnes per year by 2006 (values for 2011 not given).

5.29 Although it is not possible to predict the number of additional facilities needed to meet the Government's target, if it is to be achieved, a major expansion in both permanent and temporary aggregate recycling plants will be required. The introduction of the Landfill Tax[7] is likely to increase the demand for such facilities. In order to encourage ARCs, Policy W5.7 below identifies 7 employment sites considered to be suitable for this type of development. Proposals outside these sites are only considered to be suitable in other existing established employment sites or those designated in the City and District Council's Local Plans, which have similar environmental advantages, such as good access and limited impact on local amenity.

POLICY W5.7

PROPOSALS FOR PERMANENT AGGREGATE RECYCLING CENTRES WILL BE PERMITTED IN THE FOLLOWING EMPLOYMENT SITES:

(a) FIRBECK;
(b) BOUGHTON;
(c) BRAILWOOD ROAD, BILSTHORPE;
(d) OLD MILL LANE, MANSFIELD;
(e) BELVOIR IRONWORKS.
(f) COLWICK SITE 1;
(g) EASTCROFT.

PROPOSALS OUTSIDE THESE PREFERRED AREAS WILL ALSO BE PERMITTED IN EXISTING EMPLOYMENT SITES OR THOSE DESIGNATED IN THE CITY AND DISTRICT COUNCILS' LOCAL PLANS WHERE IT CAN BE DEMONSTRATED THAT THERE IS NO UNACCEPTABLE ENVIRONMENTAL IMPACT.

POLICY W5.8

PROPOSALS FOR TEMPORARY AGGREGATE RECYCLING CENTRES WILL BE PERMITTED IN WASTE DISPOSAL, MINERAL AND/OR CONSTRUCTION SITES PROVIDED THAT THEY ARE LINKED TO THE LIFE OF OPERATIONS AND DO NOT CREATE ANY UNACCEPTABLE ENVIRONMENTAL IMPACTS.

7 *The Landfill Tax was introduced in October 1996, its aim being to encourage recycling by taxing most waste disposed of at Landfill Sites.*

RECYCLING SOILS

5.30 Surplus top and subsoils arise from a wide range of construction activities. Depending on the quality, quantity and location there may be a ready market for such material in the landscaping and horticultural trades. Even where soil is taken to disposal sites it will generally be used as a reclamation material rather than being disposed of as waste.

5.31 Where soils are recycled purely for agricultural usage planning permission is not required. However, at some farms in the County such development has evolved into purpose built recycling centres which export soils for general use. In such cases planning permission is required. Soil recycling facilities may also be suitable within existing employment sites or those designated within the District and City Council's Local Plans.

5.32 Acceptable schemes are likely to be small scale and with no detrimental impact on local amenity. In this respect remoteness from residential areas and screening are likely to be important factors. Additionally their form, bulk and general design must be in keeping with their surroundings. Normally this suggests that sites close to or within buildings will be the most appropriate.

POLICY W5.9

PROPOSALS FOR SMALL SCALE SOIL RECYCLING SCHEMES WILL BE PERMITTED WITHIN EXISTING AGRICULTURAL BUILT DEVELOPMENT AND EXISTING EMPLOYMENT SITES OR THOSE DESIGNATED IN THE CITY AND DISTRICT LOCAL PLANS PROVIDED THAT THEIR FORM BULK, AND GENERAL DESIGN ARE IN KEEPING WITH THEIR SURROUNDING AND WHERE IT CAN BE DEMONSTRATED THAT THERE IS NO UNACCEPTABLE ENVIRONMENTAL IMPACT.

RECYCLING INDUSTRIAL/COMMERCIAL WASTE

5.33 Industry already recycles large amounts of its manufacturing waste, particularly metals. This is because they can often be re-used with relatively little expense and disposal costs are avoided. However, more could be done in various sectors. Apart from scrap yards (see Paras 5.44-5.51), this type of recycling facility is normally "in-house" and does not fall under planning control.

RECYCLING MINERALS WASTE

Colliery Spoil

5.34 Collieries are the main source of minerals waste in Nottinghamshire. The main opportunity for re-using colliery spoil is as bulk fill in construction schemes. Transport costs are, however, a major constraint and there have been few occasions where spoil has successfully competed with primary minerals.

Dredgings

5.35 Approximately 200-220,000 tonnes of material, comprising of sands, silts and marl, is dredged out of the River Trent annually. Dredgings can potentially be recycled as secondary aggregate for use as bulk fill, or if processed, used in concrete.

5.36 To date there has been limited recycling of dredgings in Nottinghamshire, although planning permissions have been granted by the County Council to periodically remove landspread dredgings at 3 sites along the Trent. A further temporary permission has been granted for reprocessing of dredgings stocked at the Gunthorpe Lock Site. At Cromwell dredgings are also disposed of and recycled at a former sand and gravel quarry.

5.37 The likelihood of any further dredging recycling schemes coming forward during the Plan period is uncertain, although the Government is actively promoting the use of secondary aggregates generally (see Para 5.23). Policy M15.1 in the Nottinghamshire Minerals Local Plan forms the basis for assessing future proposals on the re-excavation of dredgings.

Other Minerals Waste

5.38 Soils and overburden generated from the extraction of opencast coal, gypsum sand and gravel, Sherwood Sandstone, clay and limestone are generally re-used on-site in reclamation schemes. The planning requirements in relation to these issues are covered in the Minerals Local Plan.

RECYCLING POWER STATION WASTE

Furnace Bottom Ash

5.39 All of the estimated 0.5 million tonnes of Furnace Bottom Ash (FBA) produced each year from the four coalfired power stations in Nottinghamshire is recycled as a secondary aggregate, and used mainly in the production of building blocks.

5.40 FBA is normally processed through a mobile screening plant for grading into material suitable for use as a secondary aggregate. This is usually carried out within the curtilage of the power station and as such falls within permitted development rights.[8] Outside the power station, planning permission is required in the normal way. Where planning permission is required such proposals will be assessed against Policy M2.2 of the Minerals Local Plan.

Pulverised Fuel Ash

5.41 About one third of the estimated 2 million tonnes of Pulverised Fuel Ash (PFA) produced each year in Nottinghamshire is recycled and used to form secondary aggregate. Examples include bulk fill for road construction and the

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8 *The Town and Country Planning (General Permitted Development) Order 1995, Schedule 2, Part 17, Class G.*

production of building blocks[9]. PFA is also used in cement. In terms of tonnage, this is the most significant recycling of waste material in the County. Its rate of utilisation will depend upon the level of activity in the construction industry.

Desulphogypsum

5.42 The Flue Gas Desulphurisation (FGD) plant at Ratcliffe on Soar Power Station has a potential annual output of up to 500,000 tonnes of desulphogypsum. This compares to an actual output of 220,000 tonnes in 1999[10]. British Gypsum Ltd has agreed to take all this waste which will be processed to make plasterboard at the East Leake plant. Apart from solving a potential major waste disposal problem, the use of desulphogypsum will allow the conservation of the natural gypsum resources at East Leake and other mines.

5.43 Research is underway to examine whether desulphogypsum can be recycled to improve the quality of soils used to reclaim opencast coal sites[11].

RECYCLING METALS - SCRAPYARDS

5.44 In 1992, 6 million tonnes of scrap steel were recovered for sale in the UK and for export (this excludes the steel industry's usage of its own scrap produced in iron and steel making). This total includes the scrap produced from around 2 million obsolete or crashed vehicles, as well as from 6 million units of "white goods" (washing machines, cookers, freezers, refrigerators). Smaller quantities of scrap ferrous metal were recovered from domestic waste at household waste recycling centres, waste transfer stations and material recycling facilities.

5.45 In 1992, recovery rates for non-ferrous metals, expressed as a percentage of consumption, were: copper 45%, lead 64%, aluminium 39% and zinc 21%.

5.46 These scrap metal wastes are mostly collected through a well established infrastructure, passing from the smaller scrap metal yards to the main dealers. In Nottinghamshire, over 200,000 tonnes of ferrous and non-ferrous metals are recovered each year from an estimated 150 metal recycling facilities. At each stage in the chain, the scrap is sorted to remove high value non-ferrous items and bulked into standard classes of material. Large items are broken down using processes such as cutting, compacting and fragmenting, each producing a particular grade of scrap metal for re-use. Waste residues from scrapyards can contain a wide range of toxic materials which require special controls during disposal.

5.47 The main planning issues raised by scrapyards concern their visual impact, pollution risks, noise, dust and traffic. Many scrapyards were established long

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9 *See Nottinghamshire Minerals Local Plan, Chapter 2.*

10 *Source: British Geological Survey: UK Mining Statistics.*

11 *"Soil Improvements: A Novel Approach", C Rudd, Waste Planning, No. 13.*

before planning controls existed and as a result are poorly located and designed. For example, scrapyards have become established in open countryside, the Green Belt and within residential areas. The only suitable locations are industrial estates which can accommodate developments of this character.

5.48 Since September 1995, regulations[12] have come into effect which will provide some pollution control over many existing and future scrapyards.

5.49 Scrapyards have an important role to play in achieving a sustainable system of waste management. It is therefore essential that adequate facilities are available to recover scrap metal and other waste. Whilst there is little information to assess the adequacy of existing scrapyards, it is likely that scrap metal production will increase as car ownership rises, householders have more 'white goods' and recycling becomes more environmentally and economically attractive. It is therefore quite possible that proposals will be received to extend or modernise existing sites, and possibly to develop new sites.

5.50 In order to encourage new scrapyards and existing badly located scrapyards to relocate, Policy W5.10 below identifies 6 employment sites within which this type of development is considered to be appropriate. Proposals outside these areas will also be considered to be suitable in other existing employment sites or those designated within the City and District Council's Local Plans which have similar environmental advantages, such as good access and limited impact on local amenity.

POLICY W5.10

PROPOSALS FOR NEW SCRAPYARDS, AND EXTENSIONS TO EXISTING FACILITIES WILL BE PERMITTED IN THE FOLLOWING EMPLOYMENT SITES:

(a) FIRBECK;
(b) BOUGHTON;
(c) OLD MILL LANE, MANSFIELD;
(d) COLWICK INDUSTRIAL ESTATE SITE 1;
(e) COLWICK INDUSTRIAL ESTATE SITE 2;

PROPOSALS OUTSIDE THESE PREFERRED AREAS WILL ALSO BE PERMITTED IN OTHER EXISTING EMPLOYMENT SITES OR THOSE DESIGNATED IN THE CITY AND DISTRICT COUNCILS' LOCAL PLANS WHERE IT CAN BE DEMONSTRATED THAT THERE IS NO UNACCEPTABLE ENVIRONMENTAL IMPACT.

5.51 Extensions or changes to existing sites may also be acceptable in suitable employment sites, or where the proposal can ameliorate any existing environmental problems in terms of site location and design. For example,

12 *Waste Management Licensing Regulations 1994. Certain exemptions may apply.*

this may include improved screening measures, or height restrictions on waste stockpiles. Such improvements can be mainly achieved through the use of planning conditions, however, the use of planning obligations may be appropriate in some circumstances (see Para 3.11-3.14 and Policy W3.2).

POLICY W5.11

PROPOSALS TO EXTEND OR MODIFY EXISTING SCRAPYARDS WILL ONLY BE PERMITTED WHERE THEY CAN ACHIEVE SIGNIFICANT ENVIRONMENTAL IMPROVEMENTS REGARDING THE APPEARANCE AND OPERATION OF THE WHOLE SITE.

OTHER RECYCLING FACILITIES IN NOTTINGHAMSHIRE

Mercury Waste:

5.52 Odin Research and Development operate a facility, situated at Boughton, which specialises in the recovery of mercury from wastes such as dental amalgam and small mercury batteries. The process is essentially one of vacuum distillation. Throughput at the site is currently 20-30 tonnes per year but the maximum sustainable capacity could be double this. Some of the material treated is imported from Europe.

5.53 **Tyres:**

Europa Reclaim Limited in Newark shreds and granulates old tyres. The resulting material is used for the manufacture of artificial sports surfaces, children's playground bases and similar applications. The site is currently recycling about 7,000 tonnes of tyres a year. Further capacity is available which could be utilised for recycling more tyres or shredding them to make them more suitable for landfilling. However, any increase in plant throughput would have to comply with the Environment Agency authorisation. Boynton Brothers at Ranskill also operates a tyre reprocessing plant

Waste Oil:

5.54 Hall and Campey situated at Lenton in Nottingham collects and treats waste oils for use as heating fuel. In 1992/93 the facility reclaimed approximately 6,000 tonnes of oil and has capacity for handling considerably more. Oakwood Fuels at Bilsthorpe also treats waste oils.

CHAPTER 6

WASTE TREATMENT AND ENERGY RECOVERY FROM WASTE

Electricity generators at Burntstump Landfill Site, Calverton. This is one of 5 landfill sites in the County where landfill gas is collected and burnt to generate electricity.

INTRODUCTION

6.1 The purpose of treating waste is twofold. First, it reduces the volume of waste, thereby cutting down on the amount of disposal space required. Secondly, it can remove those properties of the waste which may cause pollution, so allowing it to be disposed of more safely. Treatment, therefore, helps to achieve a more sustainable waste management system by both reducing the need to take up land for disposal and the risk of pollution. Other advantages include recovery of materials and energy and being able to handle waste in a controlled environment. Energy recovery is considered at the end of this chapter.

6.2 The most common method of treating waste is incineration. Other methods are mostly in the experimental stage and/or are not as yet economically viable enough to merit any major schemes in the UK. These include anaerobic digestion, gasification and pyrolysis, chemical treatment and refuse derived fuel. However, some of these alternative methods of treatment may have a greater role to play during the Plan period.

6.3 The distinct waste group composed of waste water and sewage requires treatment before release back into the environment. Waste Water and sewage treatment is considered in Chapter 8.

WASTE TREATMENT OPTIONS

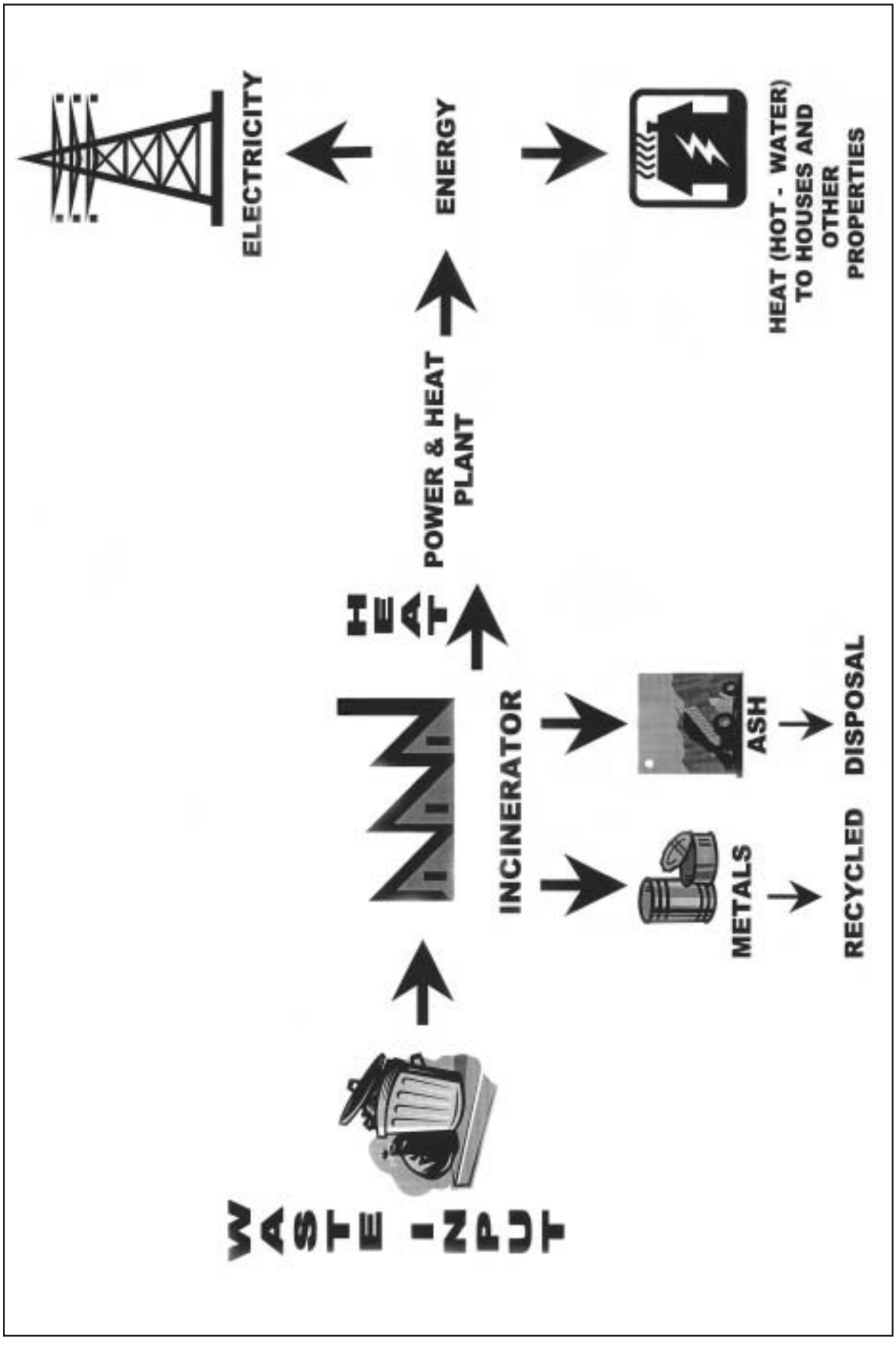
Incineration

6.4 Incineration is the most common form of treatment for a wide range of combustible wastes, in particular household, commercial, industrial, clinical and special wastes. By burning at very high temperatures, the volume of waste and its potential for causing pollution can be reduced considerably. In addition, energy may be recovered from the process. Even if recycling efforts are greatly increased (see Chapter 5) incineration is likely to represent the main opportunity for reducing the volume of waste disposed during the Plan period. This is recognised in the Government's Waste Strategy 2000 which sees incineration as a key component in meeting the overall recovery targets.

6.5 The Government has produced a leaflet[1]. to provide more information on the potential role of incineration within a sustainable waste strategy. This guidance seeks to address some of the planning and other concerns relating to incineration. Currently there are only 8 major municipal incinerators operating in the United Kingdom. These treat just 7% of the Country's municipal solid waste. In comparison to Europe this is very poor. For example, Switzerland and Belgium incinerate over 50% of their municipal solid waste, France, Sweden and Denmark over 40%, and the Netherlands and Norway over 30%.

1 *Energy from Waste, Getting More Value from Municipal Waste, DoE, November 1996.*

Figure 6.1 - Effect of Incineration on Waste.



6.6 Nottinghamshire is fortunate in having its own municipal incinerator at Eastcroft, Nottingham, which incinerates nearly 30% of the County's household waste. This is well above the national average. The incinerator takes approximately 150,000 tonnes of waste per annum from Greater Nottingham and reduces it to 45,000 tonnes of ash and 2,600 tonnes of recovered ferrous metals. In volume terms, the reduction is even more significant and averages 80-90%. The incinerator is linked to an energy recovery scheme. The Eastcroft Incinerator has already saved over 4 million m3 of disposal space since it became operative in 1973 and at current rates will save a further 5 million cubic metres over the next 20 years (see Figure 6.1). It has therefore had a major impact in reducing disposal requirements in the Greater Nottingham Area.

6.7 Nottingham also has three clinical incinerators located at Eastcroft, the Nottingham City Hospital, and the Sutton Bonington School of Agriculture. The aim of incinerating this category of waste is to remove the pollution and health risks, rather than to reduce volume. Plan 6.1 shows the locations of incinerators in the County.

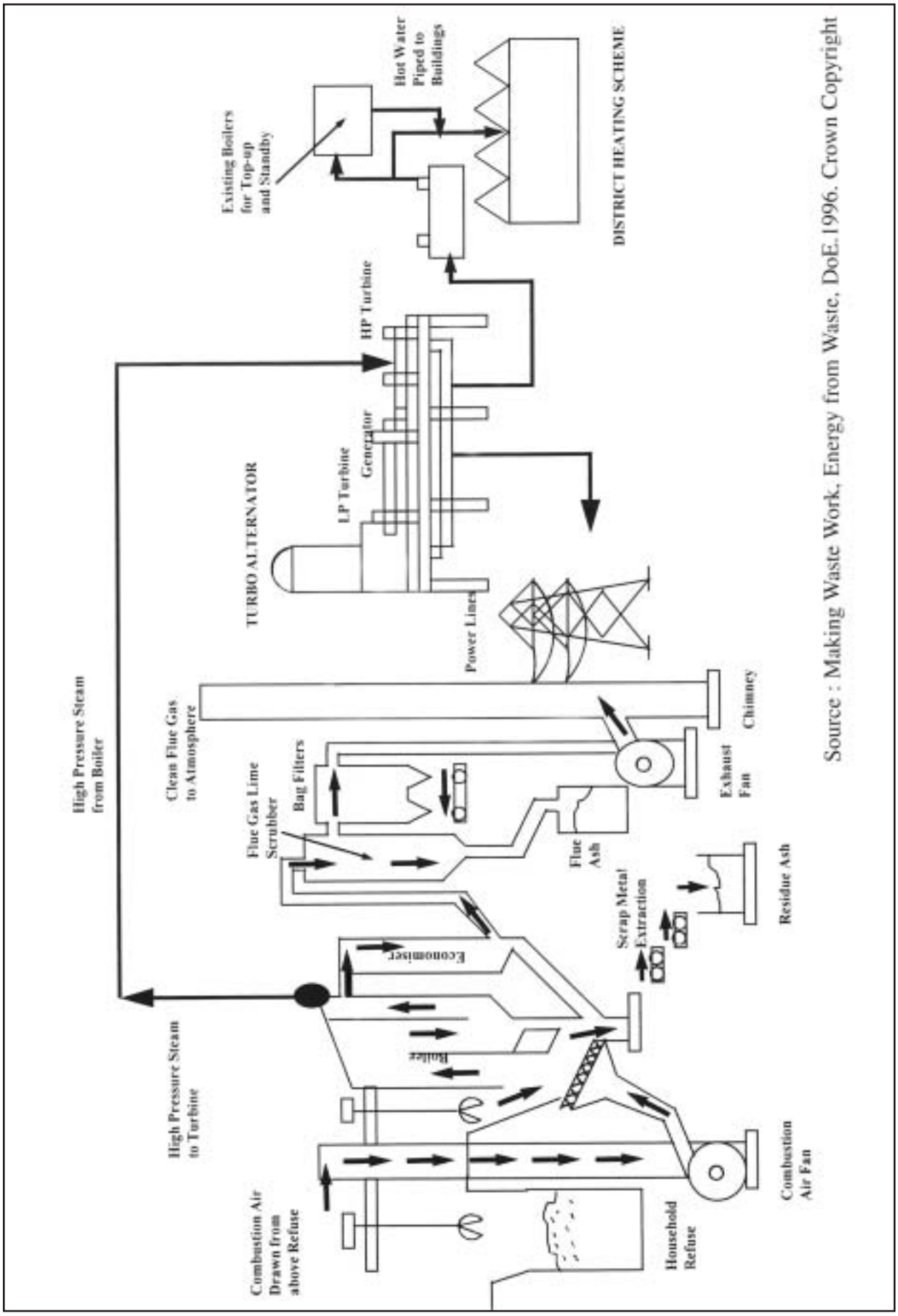
Planning Considerations of Incinerators

6.8 Municipal incinerators tend to be more visible than other waste management facilities because of their size and chimney height (see Fig. 6.2). They also tend to be sited nearer to the host communities than landfill sites (which in turn can result in greater public attention). However, this can help meet sustainable transport objectives by reducing the total mileage travelled by vehicles carrying waste. This factor is also in keeping with the proximity principle (see Chapter 2). However, this proximity can give rise to concern about local traffic movements, odour and the effects of pollution from the stack (though the latter two issues may largely arise through association with the poor image of the old generation of municipal solid waste incinerators). Concerns about emissions and other pollutant elements are controlled by environmental pollution rather than planning legislation.

6.9 Noise from an incinerator is created by vehicles manoeuvring on site and, to a lesser extent, by the combustion plant. Unpleasant odours from waste storage areas, particularly tipping bays, can also be a problem although this can be reduced by enclosure within a building. The extraction of air from the tipping area for use within the furnaces can also reduce unwanted odours. Where waste is stored prior to incineration, there is a risk that any underlying aquifer, or other water resource, may be polluted. Special or hazardous wastes pose a particular threat. Impermeable hard-standing areas may offer some protection from spillages on the site. Chapter 3 on Environmental Protection gives more detailed advice regarding these and other matters.

6.10 Although clinical and specialist waste incinerators are likely to be smaller and generate less traffic, in most other respects they are very similar to municipal incinerators.

Figure 6.2 - Diagram of a Typical, Modern, Energy from Waste Plant with combined Heat and Power



Future Provision of Municipal Incinerators

6.11 The Eastcroft Incinerator has recently been upgraded to meet the emission standards imposed by the 1990 Environmental Protection Act (EPA) and a recent European Directive[2]. This plant is therefore likely to be operative for the foreseeable future. The original design of the Eastcroft site allowed sufficient space to increase its capacity by 100,000 tonnes per annum by opening up a third line, if this became economic to do so.

6.12 The County and City Councils will look favourably on an increase in capacity at this site, as this would result in more of Nottinghamshire's waste being managed higher up the waste management hierarchy. Also, this would save considerable landfill space which is becoming in short supply in the County, particularly in the Greater Nottingham area (see Chapter 10, Para 10.8).

POLICY W6.1

PROPOSALS TO INCREASE CAPACITY AT THE EASTCROFT INCINERATOR WILL BE PERMITTED SUBJECT TO ADEQUATE ENVIRONMENTAL SAFEGUARDS.

Future Provision of Clinical Incineration

6.13 The raising of emission standards by the EPA and the lifting of crown immunity from NHS hospital incinerators has resulted in the closure of two of the three hospital incinerators. These were located at the Queens Medical Centre in Nottingham, and Kings Mill Hospital in Mansfield. However, despite this, the resultant current Countywide shortfall was a relatively insignificant 264 tonnes per annum. Planning permission has since been granted for a new high performance clinical incinerator within the existing Municipal incinerator site at Eastcroft. The maximum capacity of this facility is 5,000 tonnes per annum. The Eastcroft site became operational in 1998.

6.14 The County now has a surplus clinical waste incineration capacity of over 4,500 tonnes per annum. The County is therefore exceeding the Government's requirements in terms of being self sufficient. Indeed, it may become a major importer of this category of waste. It is therefore not considered necessary or desirable for the Plan to provide for the development of any more clinical waste incinerators. Furthermore, the health service should seek to minimise the amount of clinical waste produced in support of the overall objectives of the Plan and the principle of the waste hierarchy.

POLICY W6.2

PROPOSALS FOR CLINICAL WASTE INCINERATORS WILL NOT BE PERMITTED.

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2 *European Directive 89/429/EEC*

OTHER TECHNOLOGIES

6.15 There are a variety of other methods of treating waste. These include anaerobic digestion, gasification and pyrolysis, bioremediation, and refuse derived fuel. At present, however, no significant quantities of waste are treated by these methods in the UK. Government research and experience abroad suggests that such facilities may have a greater role to play in the future.

(a) Anaerobic Digestion

6.16 The term "anaerobic digestion" (AD), when describing a process for managing waste, refers to the break down of organic materials in the waste by bacteria in the absence of oxygen. A compost heap provides a similar bacterial break-down, but in an oxygen-rich or "aerobic" atmosphere.

6.17 Despite the fact that the same process takes place naturally within a landfill, the term anaerobic digestion is normally used to describe the anaerobic process when artificially accelerated in closed vessels. AD has been used as a method of handling certain special wastes, like sewage sludge and animal slurry, for many years, but as a treatment for municipal wastes it is relatively new.

6.18 Wastes are digested anaerobically in a closed fabricated container such as a drum. This accelerates natural degradation and all of the gas generated can be collected for use as a fuel. The remaining waste is both reduced in volume and made inert. Small quantities of compost may also be produced.

6.19 Only biodegradable wastes, that is those with an organic or vegetable origin, can be processed in anaerobic digestion plants. However, since such wastes typically make up 30 - 60% of household waste, there is considerable opportunity to either divert wastes from landfill or to pre-treat them before landfilling.

(b) Gasification and Pyrolysis

6.20 These are related techniques for the thermal breakdown of organic material through incineration. Historically both have been employed to generate town gas, coke and other products from coal. Both require the use of an engineered vessel. Whilst gasification employs oxygen enriched air, pyrolysis relies on an inert atmosphere devoid of oxygen. Gasification produces a virtually inert residue and a gas which can be used as a heating fuel. Pyrolysis produces a char which can be processed into a liquid with a heat value in the range of 50-80% of mineral fuel oil. Neither method has as yet been developed beyond a pilot state for municipal waste, but the DTLR expect significantly more research and development in the future.

POLICY W6.3

PROPOSALS FOR PILOT PLANTS FOR NEW AND EMERGING ENERGY RECOVERY TECHNOLOGIES WILL BE PERMITTED PROVIDED THEY DO NOT LEAD TO ANY UNACCEPTABLE ENVIRONMENTAL IMPACT.

(c) Refuse Derived Fuel

6.21 Refuse-derived fuel, (RDF), is made by refining municipal solid waste in a series of mechanical sorting and shredding stages to separate the combustible portion of the waste. Either a loose fuel, known as fluff, floc or coarse RDF (c-RDF), or a densified pellet or briquette (d-RDF) is produced.

6.22 RDF production can complement materials recycling schemes (see Chapter 5, Para 5.19). Glass, clean paper, metals and any other materials for which there are secondary markets are removed from the waste stream for recycling, before it is delivered to the plant. Further materials recovery is conducted at the RDF production sites, as many plants incorporate some degree of manual sorting and metal recovery schemes.

6.23 The RDF production also permits a level of flexibility, so that if, for example, no markets were available for low-grade waste paper, it could instead be temporarily re-directed to the fuel process rather than being wastefully landfilled.

6.24 Typically, the refuse is discharged either onto a tipping floor or into a bunker with an overhead grabber. Subsequently, the material is passed through a cylindrical screen (trommel) which sorts it into fine material (fines), heavy (stones and bricks) and oversized materials (large sheets of plastic etc) from the small, lighter pieces like paper and plastic film which form the fuel product. The fine fraction, containing the smaller high moisture content organics and ash is usually landfilled. The oversized fraction can be shredded and partially returned to the fuel stream or landfilled, depending on its composition, while the fuel fraction is conveyed to a shredder. Further separation takes place in an air classifier, although this would not be essential for c-RDF manufacture. For d-RDF, the light fuel fraction is subjected to secondary shredding, then dried and pelletised.

6.25 The recent controls in atmospheric emissions imposed by the 1990 Environmental Protection Act may have an impact upon the market demand for this RDF. Whilst there are no examples in Nottinghamshire, RDF plants have proved successful in some parts of the UK. The County and City Councils wish to encourage such schemes provided they do not have an adverse environmental impact. Suitable sites are likely to be within existing employment sites or those designated in the City and District Councils' Local Plans where it can be demonstrated that there is no unacceptable environmental impact.

POLICY W6.4

PROPOSALS FOR WASTE DERIVED FUEL FACILITIES WILL BE PERMITTED IN EXISTING EMPLOYMENT SITES OR THOSE DESIGNATED WITHIN THE CITY AND DISTRICT COUNCILS' LOCAL PLANS PROVIDED THERE IS NO UNACCEPTABLE ENVIRONMENTAL IMPACT.

(d) Bioremediation

6.26 Many pollutants can be converted to harmless or less harmful substances by bacteriological action. Indeed, this is the orthodox method for sewage treatment (see Chapter 8). It has also proved particularly useful for treating contaminated land. This method is known as "bioremediation". The main advantage is that the treatment can be carried out in-situ and therefore haulage costs are avoided. However, as long as low cost landfill is available at a reasonable distance, bioremediation will be an expensive option. It is however, a more sustainable option and although planning permission is unlikely to be required, the County Council wishes to encourage such schemes.

ENERGY RECOVERY

6.27 All combustible and organic waste contains potential energy which can be recovered by burning or biological (anaerobic) action. This reduces demand for finite fossil fuels and therefore helps contribute towards a more sustainable system of waste management.

6.28 The Government has produced a leaflet[3] considering more fully the benefits of energy recovery from waste than that given in the main strategy document, Making Waste Work[4]. This leaflet includes examples of technological and operational best practice and also seeks to address some of the important concerns relating to energy from waste. Additionally, the Government commissioned a study of all potential renewable energy sources, (including those relating to waste management) within the East Midlands Region[5]. Structure Plan Review Policy 10/3 and paragraphs 10.15 to 10.18 and 10.43 to 10.45) and Nottingham Local Plan Policy ENV 1 set out the approach to renewable energy proposals.

6.29 A number of waste treatment and disposal sites in the County generate energy. These comprise of one major municipal household waste incinerator, two clinical incinerators and three waste disposal sites with gas recovery (see Plan 6.1). Additionally, the operators of Dorket Head Landfill Site intend to install a gas recovery scheme to run new brick kilns.

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3 *Energy from waste, Getting More Value From Municipal Waste, DoE, November 1996.*

4 *Making Waste Work, A Strategy for Sustainable Waste Management in England and Wales, 1995.*

5 *East Midlands Renewable Energy Study, ETSU, 1998.*

(a) Energy Recovery from Incineration

6.30 Recovering energy from incinerating waste is a long established method of obtaining added value before final disposal. It may also represent the best practicable environmental option (BPEO) for certain wastes, especially where the environmental and economic costs of recycling are high (see Chapter 2 Paras 2.20-2.21).

6.31 Incinerators burn waste at high temperatures and the heat is used to generate steam. Steam can then drive electric turbines and/or heat water for a district heating scheme. Where both forms of energy are produced, this is known as a combined heat and power (CHP) scheme. These processes have undergone major technical improvements in recent years and now have to achieve very high environmental standards in terms of reduced emissions to air[6].

6.32 The Eastcroft Incinerator in Nottingham burns around 150,000 tonnes of household and commercial waste every year and the heat recovered is used to produce steam which drives turbo-alternators at the London Road Heat Station. The electricity produced is fed into the National Grid and the water heated by steam is pumped through miles of insulated pipes to two large shopping centres, major public buildings, industrial premises and council house estates. It is the only city-wide combined heat and power scheme in the UK. Plan 6.2 shows the location of these developments which benefit from the district heating scheme.

6.33 Clinical incinerators, although much smaller scale, can also recover useful quantities of energy. For example the existing plant at the Nottingham City Hospital generates hot water and electricity.

Planning Considerations and Future Provisions – Energy Recovery from Incineration

6.34 The main issues regarding the environmental impact and future provision of incinerators are covered in paragraphs 6.8-6.14. With regards to the additional machinery required to convert heat from the incineration process to energy, this is incorporated within the structure of the main plant. Whilst energy conversion plant will normally require planning permission, it is not likely to result in significant additional environmental impact. In order to comply with the overall strategy set out in Policy W2.1, all incinerators should therefore incorporate energy recovery schemes where it is economic to do so.

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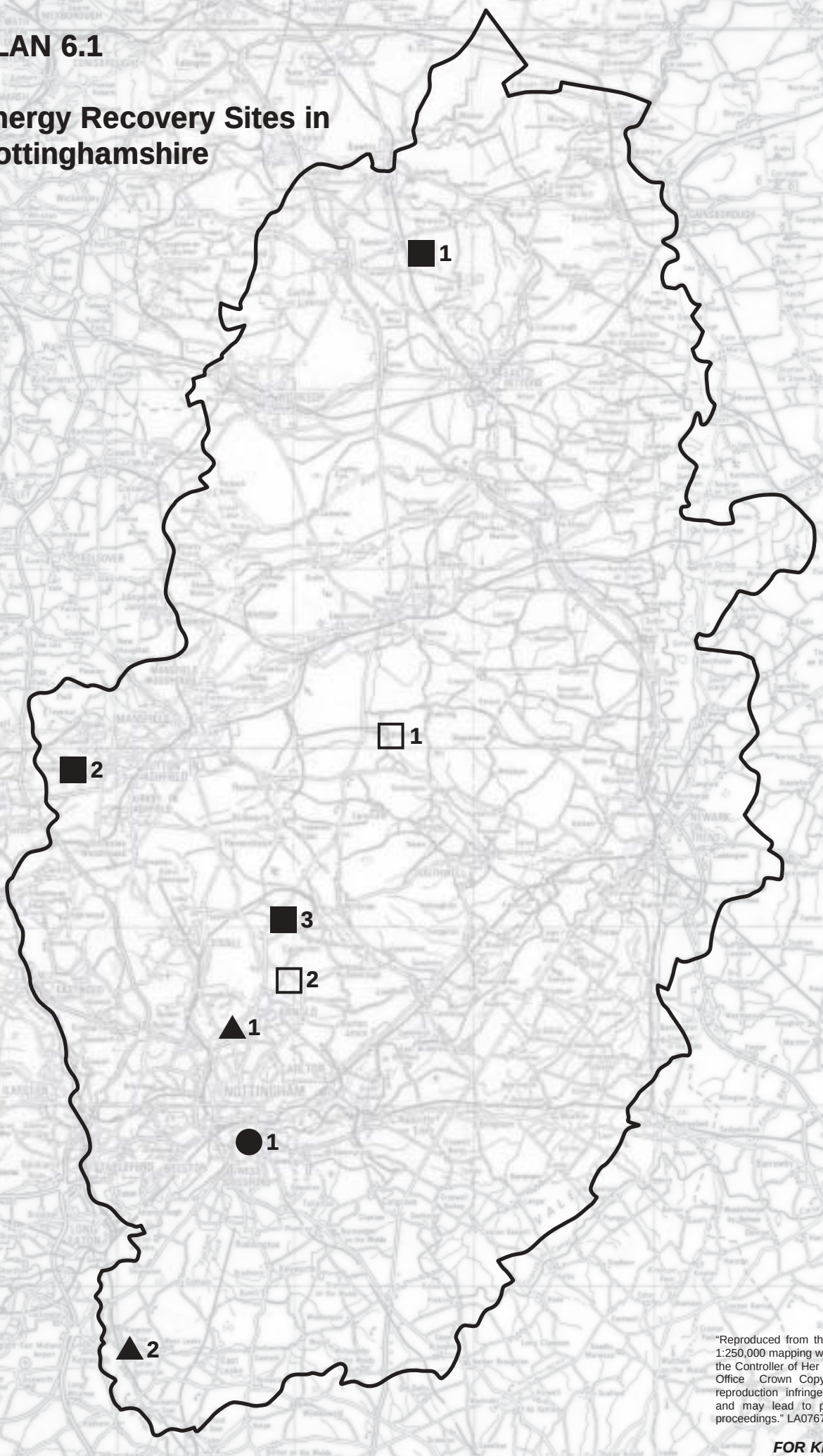
6 *Directive on Prevention of Air Pollution from New Municipal Waste Incineration Plants (89/369/EEC) and Directive on Reduction of Air Pollution from existing Municipal Incinerator Plants (89/429/EEC). Implemented in the UK under the Environmental Protection Act 1990 and Regulations made under it.*

PLAN 6.1

Energy Recovery Sites in Nottinghamshire



FOR KEY SEE OVER

KEY TO PLAN 6.1

Energy Recovery Sites in Nottinghamshire

● Municipal Incinerator

1. Eastcroft Incinerator

▲ Clinical Incinerator

1. Nottingham City Hospital
2. Sutton Bonnington School of Agriculture

■ Landfill Gas Energy Recovery Scheme

1. Daneshill
2. Sutton
3. Burntstump

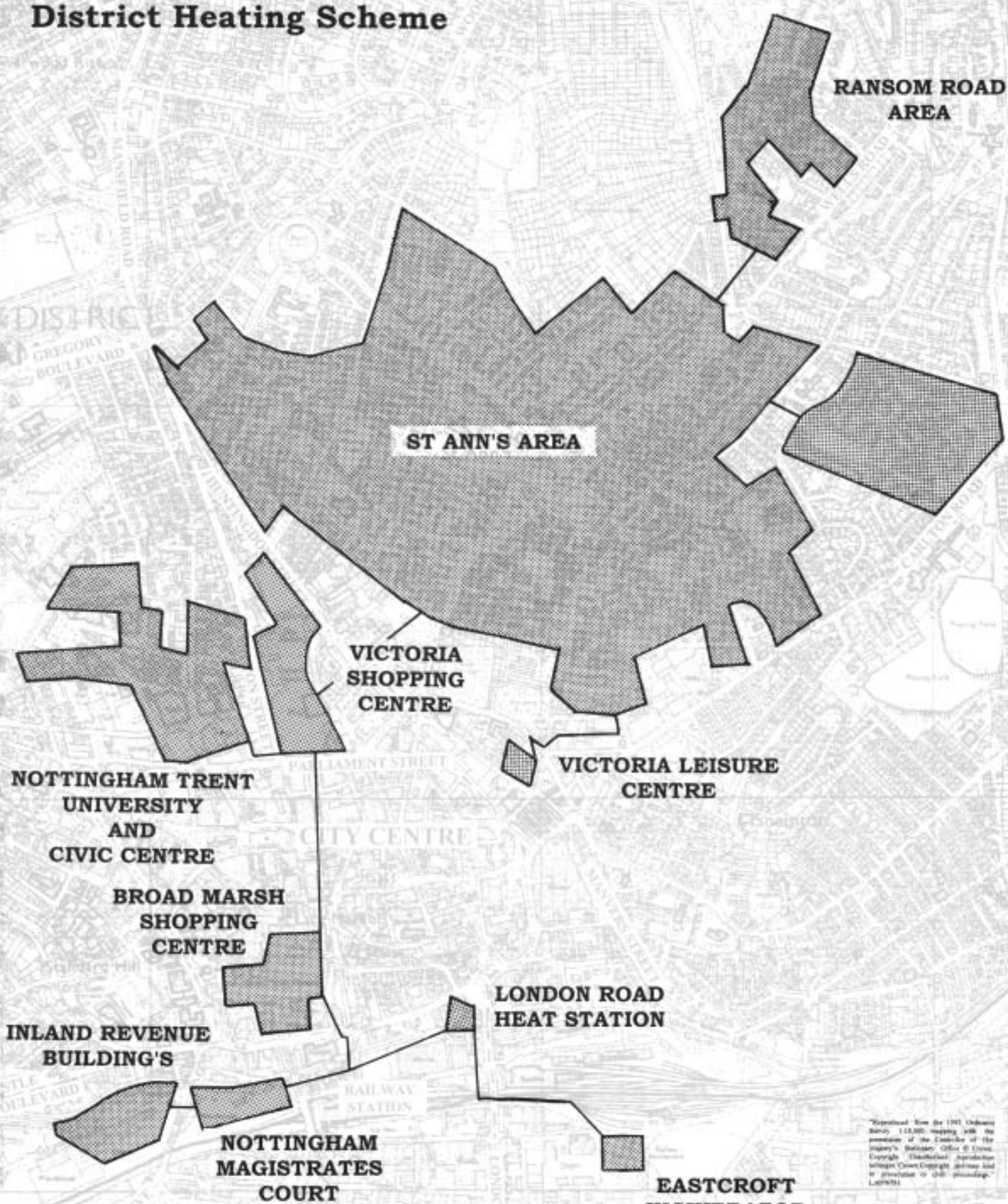
□ Proposed Landfill Gas Energy Recovery Scheme

1. Bilsthorpe
2. Dorket Head

Scale: 1:312,500 (1” to 5 miles) 1cm = 3.125km

PLAN 6.2

Eastcroft Incinerator and Developments which benefit from the London Road District Heating Scheme



POLICY W6.5

PROPOSALS FOR ENERGY RECOVERY SCHEMES AT INCINERATOR SITES WILL BE PERMITTED PROVIDED THERE IS NO UNACCEPTABLE IMPACT.

POLICY W6.6

PROPOSALS FOR INCINERATION OF WASTE WHICH LEAD TO THE GENERATION OF ECONOMICALLY RECOVERABLE QUANTITIES OF ENERGY WILL ONLY BE PERMITTED WHERE THEY INCORPORATE ENERGY RECOVERY SCHEMES.

(b) Energy Recovery from Waste Disposal

6.35 Disposal sites containing organic waste, can generate large quantities of landfill gas, which mainly comprises the flammable gas methane. Landfill gas can be collected, burnt and the heat used to generate electricity. It therefore represents a means of deriving residual value from landfilled waste.

6.36 Energy recovery from landfill produces only one fifth of the energy per tonne of waste than incineration with energy recovery and does not achieve volume reduction. It may also take 15 years or more to recover the methane from a landfill site, whereas the energy from incineration is recovered rapidly. Set against this, landfill gas is a cleaner fuel and requires less pollution abatement measures than incineration. Normally, landfill waste to energy plants are sited further from centres of population than is the case for incinerators.

6.37 Nationally, landfill gas generates around 80 megawatts of electricity per annum. The Government is seeking to increase the number of landfill sites that generate energy, and technological improvements should increase the proportion of landfill gas which can be collected from sites.

6.38 In addition to the wider environmental advantages of energy recovery from landfill discussed in Para 6.1, such schemes also help to avoid local dangers of explosion, asphyxiation and crop damage. Burning landfill gas also minimises atmospheric pollution, as methane is one of the most potent 'greenhouse' gases.

6.39 Of the ten non-inert waste disposal sites currently operating in Nottinghamshire five sites at Daneshill, Sutton, Dorket Head, Bilsthorpe and Burntstump, incorporate energy recovery schemes (see Plan 6.1). If the remaining sites included such schemes, the energy savings and environmental gains would be significant.

Planning Considerations and Future Provisions – Energy Recovery from Waste Disposal

6.40 Planning permission for the electricity generating plant is required, but this does not generally apply to the collection pipework. However retention of pipework post closure of the disposal site may require permission.

6.41 The electricity generating plant is usually enclosed within a building and its appearance is comparable to that of a small compact industrial unit. Whilst this development is unlikely to add significantly to the environmental impact of the waste disposal site, the plant is likely to remain on site for many years after the disposal site has been reclaimed. When siting the plant, account should therefore be taken of the longer term environmental implications. This also applies to the associated collection pipework.

6.42 Chapter 10, which considers waste disposal, indicates there is likely to be further demand for non-inert waste disposal capacity. Where future proposals are likely to lead to economically recoverable quantities of landfill gas, energy recovery schemes should be included. Such schemes accord with the overall strategy set out in Policy W2.1.

POLICY W6.7

PROPOSALS FOR WASTE DISPOSAL WHICH WOULD LEAD TO THE GENERATION OF ECONOMICALLY RECOVERABLE QUANTITIES OF LANDFILL GAS, WILL ONLY BE PERMITTED WHERE THEY INCORPORATE ENERGY RECOVERY SCHEMES.

6.43 It may also be economic to recover energy at some of the County's existing sites. The County and City Councils wish to encourage the installation of energy recovery equipment, where this does not lead to any unacceptable environmental impact.

POLICY W6.8

PROPOSALS FOR THE INSTALLATION OF ENERGY RECOVERY EQUIPMENT AT EXISTING LANDFILL SITES WILL BE PERMITTED, PROVIDED THERE IS NO UNACCEPTABLE ENVIRONMENTAL IMPACT.

CHAPTER 7

COMPOSTING AND LANDSPREADING

Commercial scale composting of garden and parkland waste at Langar

INTRODUCTION

7.1 It is not only through re-use and recycling that value can be recovered. There are various forms of recovery which produce value from waste without necessarily recovering materials. Composting and landspreading of organic waste are the main examples of such a process.

7.2 Composting and landspreading help to achieve a more sustainable waste management system by both reducing the need to take up land for disposal and by reducing demand for natural resources of peat. This is in line with the principles advocated in MPG13[1].

COMPOSTING

7.3 Composting involves the processing of organic waste to produce a material which can be used as a soil conditioner or a growing medium. Compost has traditionally been produced and used for these purposes by householders and this method of recovering value from waste requires no municipal collection. However, in recent years a number of large scale composting facilities which import green waste, have opened up around the country.

7.4 In Nottinghamshire, composting has, until recently, only been practised at an individual household level. However, in December 1994 planning permission was granted for the establishment of a recycling and composting facility, utilising industrial premises on the Langar Industrial Estate. The site is operated by Waste Recycling Group. Up to 15,000 tonnes per annum of green waste (garden and landscape/park waste) are received from Household Waste Recycling Centres (HWRC) and landscape contractors. This in turn generates some 6,500 tonnes of compost and 800 tonnes of mulch.

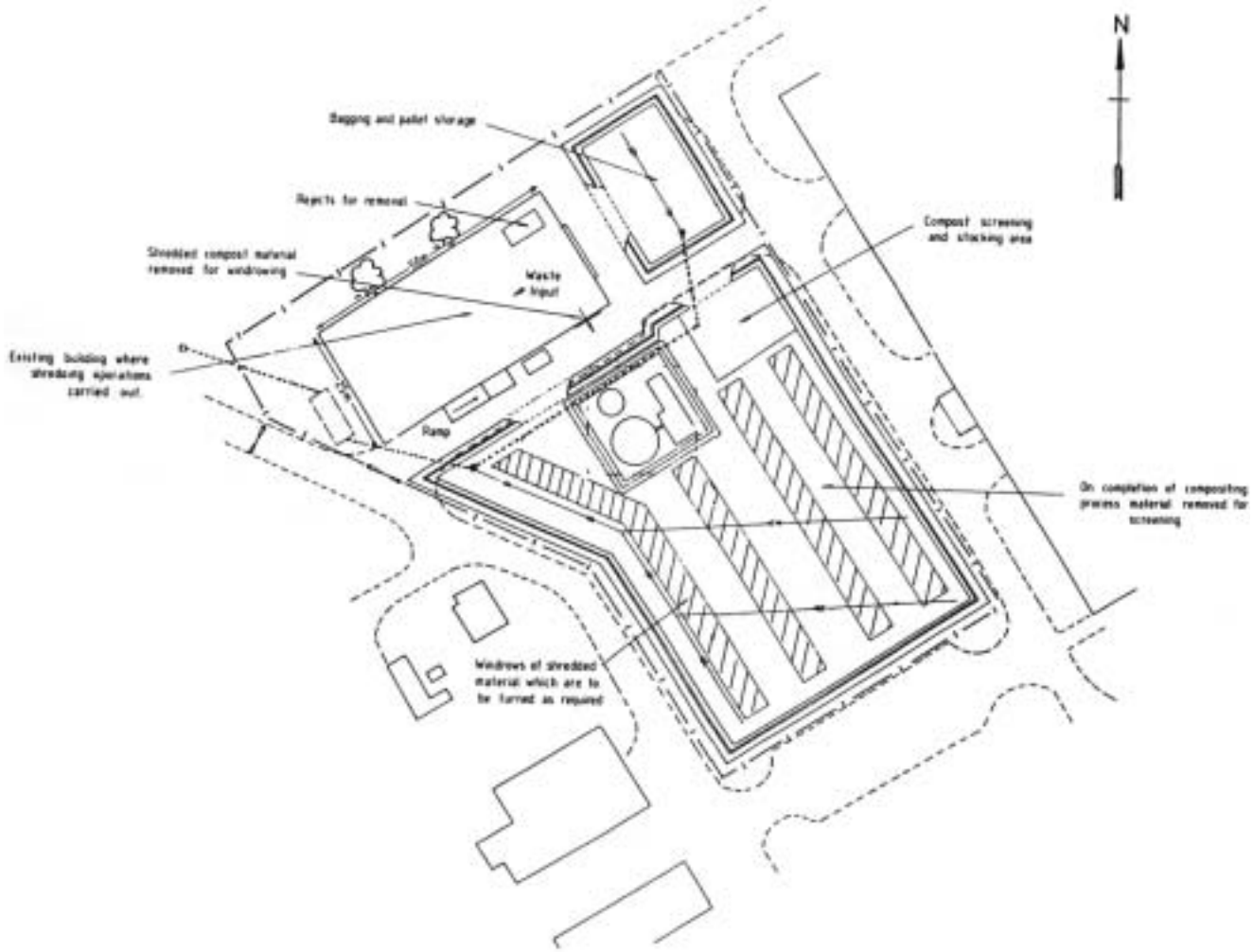
Planning Considerations

7.5 Only non-domestic composting schemes require planning permission. These facilities typically have an industrial/agricultural appearance with buildings, storage areas, water tanks and various mobile and fixed plant. Figure 7.1 shows the site layout of the commercial composting scheme at Langar. Schemes can, however, operate on a much smaller scale than this site.

7.6 Green waste, and in some cases other putrescible waste, is initially deposited in a storage area where reject material such as plastic bags is removed by hand. A loading shovel then feeds the waste into the shredding machine (often enclosed within a building) after which the material is laid out in the open on concrete rafts in long rows approximately 2-3m high. Mobile plant turns the waste material twice a week for the next 12 - 14 weeks to enable the composting process to take place. The processed material is then screened to provide a fine soil enhancer and a coarser mulch which prevents weed growth. These materials are then sold in bulk and/or bagged (on or off-site) and taken to HWRCs or other locations to be sold. Reject materials are taken to nearby waste disposal sites.

1 *Minerals Planning Guidance Note No. 13 - Guidelines for Peat Provision in England including the Place of Alternative Materials, 1995.*

Figure 7.1 - Diagram of Langar Composting Scheme
(Extract from Planning Application, Courtesy of Waste Recycling Group



Scale 1:1250 (approx)

7.7 The main planning issues relate to visual impact, noise, smell, traffic and collection of leachate. Employment sites remote from residential areas are therefore the most suitable location for permanent facilities. Sites may also be located within waste disposal sites, provided that operations are limited to the life of the waste disposal scheme. Small scale schemes may also be suitably located within existing agricultural development provided that their form, bulk and general design are in keeping with their surroundings. Such a scheme would conform to advice given in PPG7[2] on the diversification of the rural economy.

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2 *Planning Policy Guidance Note No. 7, The Countryside - Environmental Quality and Economic and Social Development, 1997.*

Future Provision

7.8 The Government is keen to increase the volume of composting of putrescible waste by allocating "Supplementary Credit Approvals"[3] to expand Local Authority involvement in composting schemes. Similarly, the payment of recycling credits to commercial composting companies who collect waste themselves should help to ensure the commercial viability of operations.

7.9 Attempts to operate large-scale composting plants do not yet account for significant amounts of waste, although there is estimated to be a large potential market for compost, and there is enough compostable waste to produce up to 9 million tonnes per annum nationally. The present level of production of compost in the UK is only 150,000 cubic metres per annum. Advances in technology may allow composting to become a more significant method of waste management.

7.10 The likelihood of further large scale commercial schemes coming forward in Nottinghamshire during the Plan period is uncertain. There is, however, estimated to be a large potential market for compost and there is sufficient compostable waste arising in Nottinghamshire to supply several such developments. Much will depend on the success of the composting scheme at Langar (see Para 7.4). If this site proves that composting is economically viable in Nottinghamshire, proposals for further schemes could come forward during the Plan period. Policy W7.1 identifies employment sites within which this type of development is considered to be appropriate. Proposals in other existing employment sites, or those designated in the City and District Councils' Local Plans, will be permitted where it can be demonstrated that there is no unacceptable environmental impact. Policy W7.2 promotes commercial composting in waste disposal sites linked to the life of disposal operations and Policy W7.3 promotes composting within agricultural built development.

POLICY W7.1

PROPOSALS FOR COMPOSTING SCHEMES WILL BE PERMITTED IN THE FOLLOWING EMPLOYMENT SITES:

(a) BOUGHTON;
(b) BRAILWOOD ROAD, BILSTHORPE;
(c) OLD MILL LANE, MANSFIELD;
(d) COLWICK SITE 1;
(e) COLWICK SITE 2.

PROPOSALS OUTSIDE THESE AREAS OF SEARCH WILL ALSO BE PERMITTED IN EXISTING EMPLOYMENT SITES OR THOSE DESIGNATED IN THE CITY AND DISTRICT COUNCILS' LOCAL PLANS WHERE IT CAN BE DEMONSTRATED THAT THERE IS NO UNACCEPTABLE ENVIRONMENTAL IMPACT.

3 *Supplementary Credit Approvals are additional expenditure allowances issued by the Government.*

POLICY W7.2

PROPOSALS FOR COMPOSTING SCHEMES WILL BE PERMITTED IN WASTE DISPOSAL SITES PROVIDED THAT THEY ARE LINKED TO THE LIFE OF DISPOSAL OPERATIONS AND DO NOT CREATE ANY UNACCEPTABLE ENVIRONMENTAL IMPACT.

POLICY W7.3

PROPOSALS FOR SMALL SCALE COMPOSTING SCHEMES WILL BE PERMITTED WITHIN EXISTING AGRICULTURAL BUILT DEVELOPMENT PROVIDED THAT THEIR FORM, BULK, AND GENERAL DESIGN ARE IN KEEPING WITH THEIR SURROUNDINGS

THE LANDSPREADING OF ORGANIC WASTE

7.11 Landspreading represents an economical and, when properly controlled, an environmentally safe way of recovering value from a variety of organic wastes. These mainly comprise agricultural wastes, manure, slurry, silage, effluent and crop residues and sewage sludge. Landspreading is the normal waste management option for these materials. Landspreading is also used for a variety of wastes that arise off-farm. For example, paper manufacturing waste, food processing waste, non-food waste such as lime and slag and sewage sludge. These wastes can provide valuable nutrients and organic matter which allow farmers to reduce the amount of inorganic fertiliser applied.

Planning Considerations

7.12 Most landspreading falls outside planning control and is normally exempt from licensing under the Environmental Protection Act. The landspreading of organic farm wastes is covered by Codes of Good Agricultural Practice for the Protection of Water, Air and Soil, issued by the Ministry of Agriculture, Fisheries and Food[4]. These Codes provide practical guidance and advice to farmers on the storage, management and application of a wide range of farm wastes. Where pollution arises, farmers may be liable for prosecution under various Acts of Parliament.

7.13 The landspreading of sewage sludge on food crops is controlled by the Sewage Sludge (Use in Agriculture) Regulations 1989 (as amended) which are administered by the Department of Environment, Food and Rural Affairs (DEFRA) and enforced by the Environment Agency. These Regulations implement EC Directive 86/278/EC and are complemented by a Code of Practice. They contain a range of measures designed to protect soil and crop quality, human and animal health and the environment.

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4 *Code of Good Agricultural Practice for the Protection of Water (1991), Air (1992), Soil (1993) MAFF.*

CHAPTER 8

WASTE WATER AND SEWAGE TREATMENT

A typical sewage treatment works.

INTRODUCTION

8.1 Waste water and sewage is a distinct waste group. Every individual and business produces waste water, most of which has to be treated before it can be released back into the environment. Responsibility for the provision of sewage treatment facilities and infrastructure in Nottinghamshire lies with three water companies. The majority of the County is served by Severn Trent Water Ltd, but in the east there is an area covered by Anglian Water Ltd, and in the north west, an area covered by Yorkshire Water Ltd.

Existing Facilities

8.2 There are over 30 sewage works in Nottinghamshire which vary greatly in size and capacity. Capacity is quoted in terms of population equivalents composed of the number of people within the catchment area combined with the estimated output from industrial and commercial premises. Stoke Bardolph sewage treatment works, with a population equivalent capacity of over 456 thousand, is the largest within the County, receiving waste water and sewage from most of Greater Nottingham. The treated water is discharged into the River Trent under a discharge consent issued by the Environment Agency. The consent is issued subject to specific water quality standards being met. In addition, much of the sewage sludge produced during treatment is injected into the land, comprising part of Severn Trent Water's Stoke Bardolph Farm. A proportion of the sewage sludge is also converted into biogas on site.

Future Requirements

8.3 Built development proposals place increasing pressures on the capacity of the existing sewage treatment system. This in turn may lead to the need to develop new sewage treatment works, or to expand and renew existing works. This situation is reinforced by the introduction of more stringent water quality standards.

8.4 Sewerage undertakers have extensive rights to carry out development without the need to obtain planning permission under the General Permitted Development Order 1995.[1] Considerable development, involving large items of plant and machinery (excluding buildings), and repairs to sewers, can be carried out within existing operational sites without the submission and approval of a planning application. However, the WPA is usually consulted and efforts are made by the water companies to work in partnership with the local community wherever possible. New sewage treatment works will require planning permission. In some instances an Environmental Statement will be required, depending on the size, nature and location of the development proposed. (See Chapter 3, para 3.7).

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1 *Parts 10 and 16 of Article 2 to the Town and Country Planning (General Permitted development) Order 1995, S.I. 1995 No. 418.*

8.5 The likely impacts of sewage treatment works are those from offensive odours, flies, as well as visual intrusion. Therefore, sewage treatment works need to be relatively remote from residential areas and located on the edge of settlements.

POLICY W8.1

PROPOSALS FOR NEW WASTE WATER AND SEWAGE TREATMENT WORKS, OR EXTENSIONS AND RENEWAL OF EXISTING FACILITIES WILL BE PERMITTED UNLESS THERE ARE ANY UNACCEPTABLE ENVIRONMENTAL IMPACTS.

8.6 In addition, the water companies operate a "cordon sanitaire" policy, which seeks to influence the type of development which might take place within a certain distance of a sewage works. The "cordon sanitaire" is a site specific limit ranging from 25 to 400 metres, which varies according to the type of processes carried out, the size of works, industrial effluents involved, landuse around the site, any anticipated extensions and site topography. This helps to minimise the impacts of odour and flies. A number of District Local Plans contain policies which reinforce the "cordon sanitaire" principle.

CHAPTER 9

WASTE TRANSFER STATIONS

A typical general waste transfer section. Waste is collected from a wide range of sources before being sorted and bulked up for disposal or recycling.

INTRODUCTION

9.1 Waste transfer stations play an important intermediate role between the collection and final disposal of waste. Their purpose is usually to collect together relatively small amounts of waste until sufficient quantities are accumulated to merit transportation to the relevant waste management option. Waste transfer stations help achieve a more environmentally sustainable system of waste management as they can reduce transport requirements, particularly long distance haulage, and allow a greater proportion of the waste stream to be recycled, treated and/or recovered. Figure 9.1 illustrates the role waste transfer stations play in waste management.

TYPES OF TRANSFER STATIONS

9.2 There are two types of transfer station. First, there is the general operation dealing with a wide range of wastes, including commercial, industrial and demolition wastes. Materials such as paper, cans, and plastic can be sorted and taken on to other sites for recycling. Builders' rubble and soils can be separated and, possibly, screened to be sold on or taken to disposal sites. Other wastes may be sent on for treatment before disposal.

9.3 Secondly, there is the specialist transfer station dealing with a single type of waste, normally special or hazardous categories, for example, asbestos waste from demolition sites. Industrial and manufacturing processes often produce wastes which would be very costly to transport and dispose of in small amounts. The waste is sometimes separated into its different components on-site before being bulked and sent on for treatment, recycling or disposal.

9.4 There are 22 general waste transfer stations in Nottinghamshire, mostly in urban areas. Plan 9.1 identifies the location of these sites.

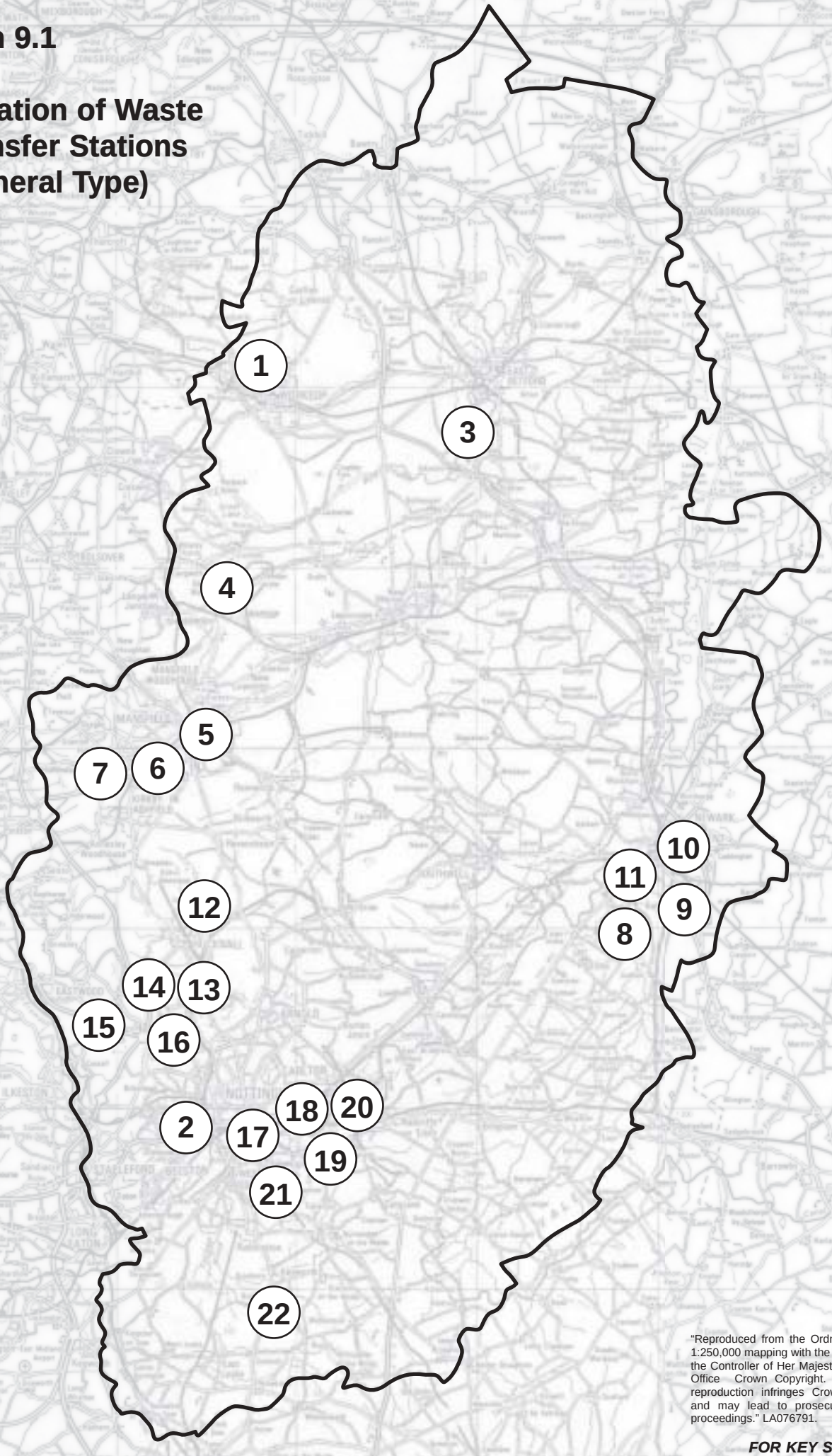
PLANNING CONSIDERATIONS

9.5 General waste transfer stations and larger specialist sites can have a significant environmental impact. Sites typically have an industrial appearance with buildings, waste storage areas, skips, tipping bays, and various mobile and fixed plant. Office accommodation and car parking for staff and visitors may also be required. Figure 9.2 shows the layout of a typical general waste transfer station.

9.6 Noise and dust are generated by mechanical grabbers and mobile plant which sort and load the waste. HGV traffic taking sorted wastes off-site to be recycled, disposed or otherwise managed may also be a cause of concern. Where non-inert wastes are involved, leachate from storage and sorting areas present a risk of water pollution and unpleasant odours may be emitted. Chapter 3 on Environmental Protection gives detailed guidance on how such impacts can be minimised.

Plan 9.1

Location of Waste Transfer Stations (General Type)



FOR KEY SEE OVER

KEY TO PLAN 9.1

Location of Waste Transfer Stations (General Type)

Waste Transfer Stations

1. Claylands Avenue, Worksop
2. Sadlers – Beechdale Road, Aspley
3. Jockey Lane, Retford
4. Windmill House Farm, Worksop
5. Lime Tree Place, Mansfield
6. Bleak Hill, Mansfield
7. Station Road, Sutton-in-Ashfield
8. Quarry Farm, Newark
9. Quarry Farm, Newark
10. Bullpit Lane, Newark
11. Bowbridge Road, Newark
12. Baker Brock Industrial Estate, Hucknall
13. Plot 8, Moorbridge Works, Bulwell
14. Plot 9, Moorbridge Works, Bulwell
15. Eastwood Road, Kimberley
16. Bulwell Lane, Old Basford
17. Eastcroft Road, Kimberley
18. Little Tennis Street, Nottingham
19. Rushcliffe Borough Council – Gamston
20. Private Road No. 2, Colwick
21. Abbey Road, West Bridgford
22. Bunny

Source: Environment Agency Statistics 1997

Scale: 1:312,500 (1” to 5 miles) 1cm = 3.125km

Figure 9.1 Role of Waste Transfer Station (General Type)

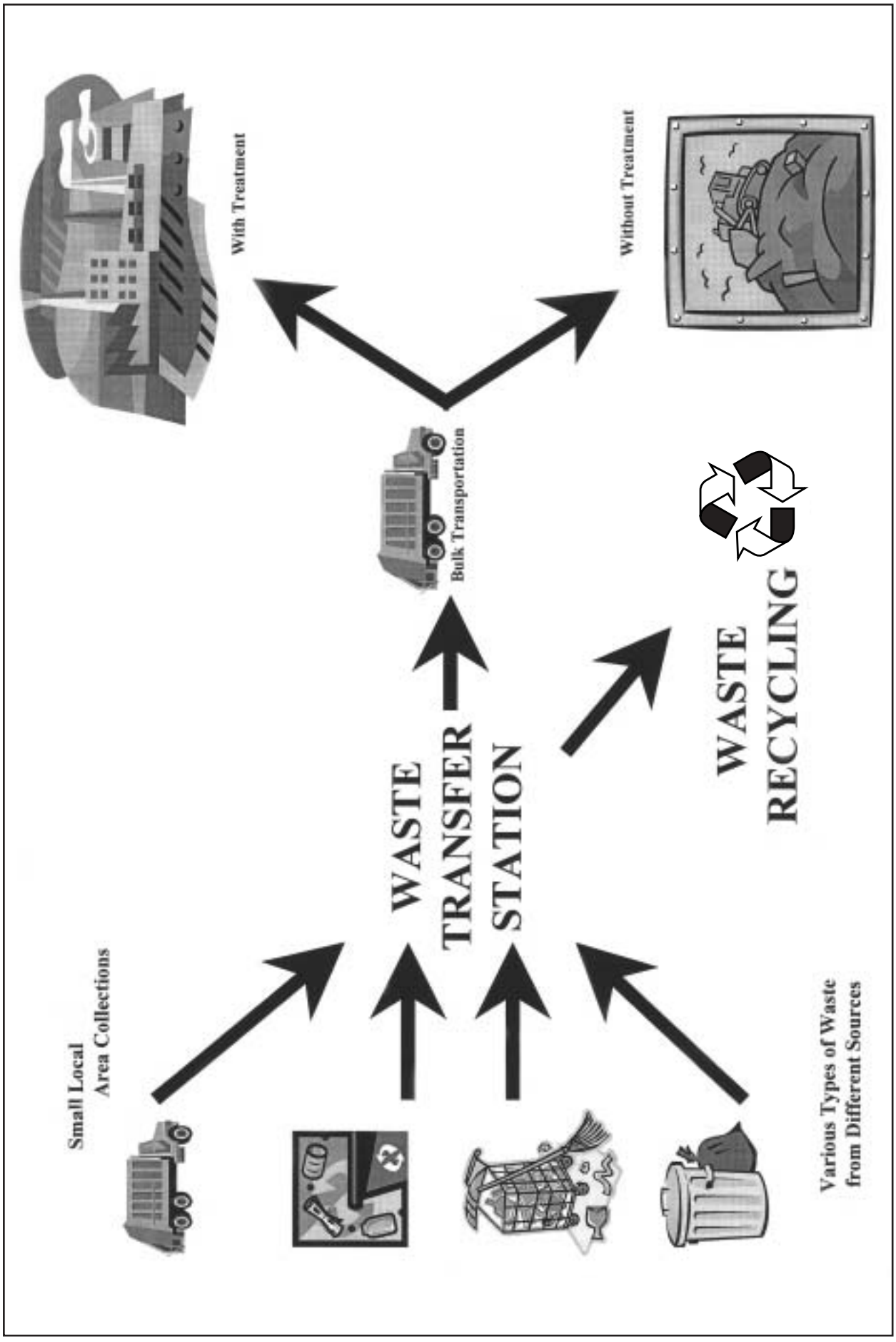
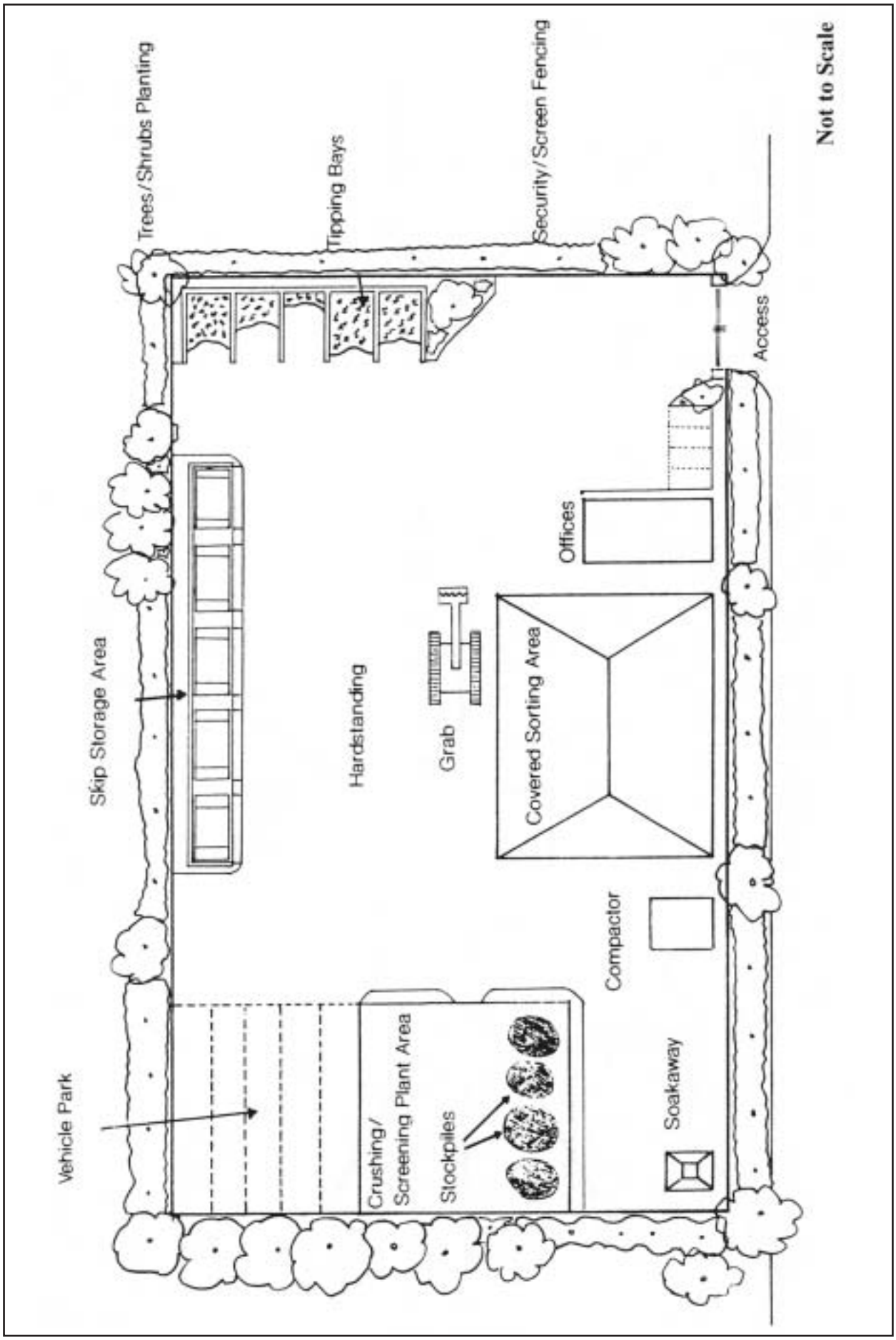


Figure 9.2 Illustration of a Typical Waste Transfer Station (General Type)



9.7 Many specialist waste transfer stations, particularly those dealing with asbestos and solvent wastes, consist of no more than a skip in the yard of a manufacturing unit. Whilst planning permission is often not required, it would be pertinent for operators to check the planning implications with the WPA.

FUTURE PROVISIONS

9.8 Whilst waste transfer stations serve an important function, large schemes should only be sited in employment sites designed to accommodate such types of environmentally intrusive development.

9.9 In order to encourage more waste transfer stations in Nottinghamshire, Policy W9.1 allocates 13 small areas of search within which a Waste Transfer Station may be suitable. New schemes and extensions to existing facilities may also be suitably located in employment sites or those designated in the City and District Council Local Plans where it can be demonstrated there will be no unacceptable environmental impact. Where appropriate, buildings and covered areas should be used for the handling/processing of wastes to minimise impact on the Environment and amenity. For example, this is likely to be necessary for the areas of search identified at Harworth, Bleak Hills and Firbeck in order to be in keeping with the prestigious nature of these employment sites.

POLICY W9.1

PLANNING PERMISSION FOR WASTE TRANSFER STATIONS WILL BE PERMITTED WITHIN THE FOLLOWING EMPLOYMENT SITES SUBJECT TO ADEQUATE ENVIRONMENTAL SAFEGUARDS:

(a) HARWORTH;
(b) FIRBECK;
(c) BOUGHTON;
(d) BRAILWOOD ROAD, BILSTHORPE;
(e) OLD MILL LANE, MANSFIELD;
(f) BLEAK HILLS MANSFIELD;
(g) LAND WEST OF FULWOOD;
(h) BELVOIR IRONWORKS, BALDERTON;
(i) NEWMANLEY ROAD, EASTWOOD;
(j) COLWICK SITE NO.1;
(k) COLWICK SITE NO.2;
(l) EASTCROFT;
(m) LANGAR.

PROPOSALS FOR NEW FACILITIES OR EXTENSIONS TO EXISTING SITES OUTSIDE THESE PREFERRED AREAS WILL ALSO BE PERMITTED IN OTHER EXISTING EMPLOYMENT SITES OR THOSE DESIGNATED IN THE CITY AND DISTRICT COUNCIL LOCAL PLANS PROVIDED THERE IS NO UNACCEPTABLE ENVIRONMENTAL IMPACT.

CHAPTER 10

WASTE DISPOSAL

Disposal of untreated household, commercial and industrial waste is the most common waste management method, but is the least sustainable.

INTRODUCTION

10.1 Waste disposal involves the deposit of waste within a mineral or other void (landfill), or upon land, raising the original contours (land raising). Despite being the least desirable option within the waste hierarchy, as indicated by Policy W2.1, waste disposal is by far the most common method of waste management both in the UK and in Nottinghamshire. For example, 70% of the UK's household, commercial, construction and demolition and other non-controlled waste goes to landfill (see Chapter 1, Table 1.2). Similarly most of Nottinghamshire's waste is managed by landfill (see Chapter 1, Table 1.3). Plan 10.1 shows the location of permitted and active disposal sites in Nottinghamshire at 1st April 2000. Tables 10.1-10.3 give more detailed information about these facilities.

10.2 Although safe disposal is placed at the bottom of the hierarchy, it will remain an essential and major component of the Waste Strategy. This is because, even if the most optimistic assumptions on recycling and other more sustainable waste management options are achieved, large quantities of waste will still need to be disposed of. Adequate and safe disposal facilities must be provided if all of the waste produced by society is to be properly managed. Where disposal involves the reclamation of mineral voids, and, if appropriate is combined with energy recovery, it may represent the Best Practicable Environmental Option (BPEO) for dealing with certain waste arisings.

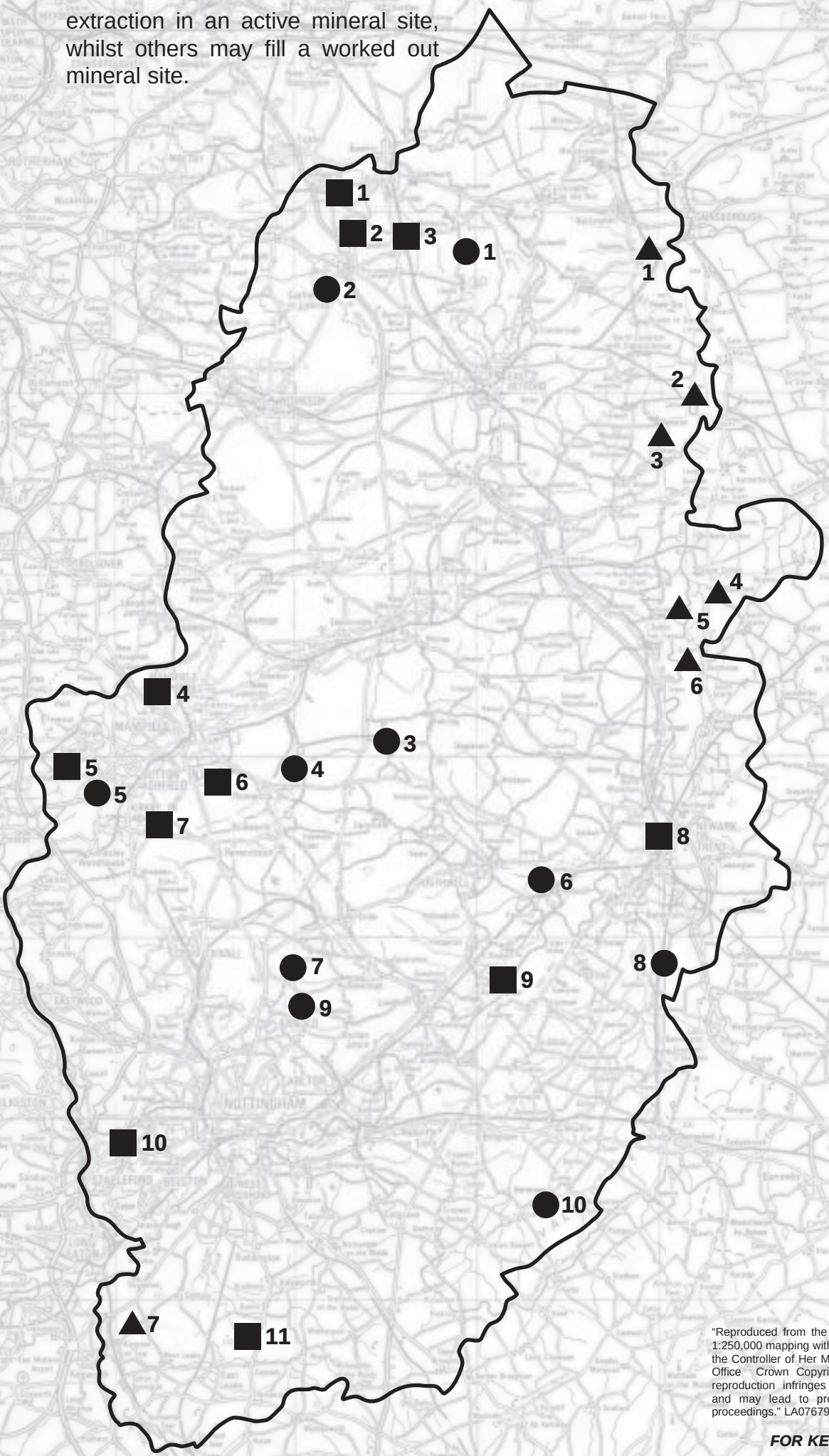
OPERATIONS AND ENVIRONMENTAL IMPACT

(a) Landfill

10.3 Historically, landfill has always been the cheapest and most common management method. Sites vary enormously in size ranging from the infilling of a small railway cutting, to a large worked out clay pit. Sites may include areas for sorting and storing waste, plant and machinery, weighbridges, office accommodation, internal haul roads and hardstanding for car parking. Non-inert disposal sites, dealing with household, trade and other industrial wastes, may also include perimeter litter-catch fencing, leachate lagoons, gas flaring equipment and gas-to-energy plant. After reclamation, there may be a need to keep pollution control and monitoring equipment as well as gas-to-energy plant on site for many years (see Chapter 6). A typical non-inert landfill site is illustrated in Figure 10.1.

10.4 The technical suitability of sites for different types of waste and the need for pre-disposal works is largely determined by geology. Whilst tipping at both inert and non-inert sites is normally done in phases, sites for non-inert waste, more typically require considerable preparatory work. The extent of such work will depend on the geology. Site preparation may include the construction of cells with clay and/or artificial linings to prevent leachate escaping. The construction of these cells involves large earth moving plant. After being tipped in layers, the waste is graded and compacted and finally capped with low permeability material. The practicalities of working within sites varies greatly. For example some sites may be phased behind

extraction in an active mineral site, whilst others may fill a worked out mineral site.



FOR KEY SEE OVER

PLAN 10.1 -

Location of Permitted Disposal Sites in Nottinghamshire

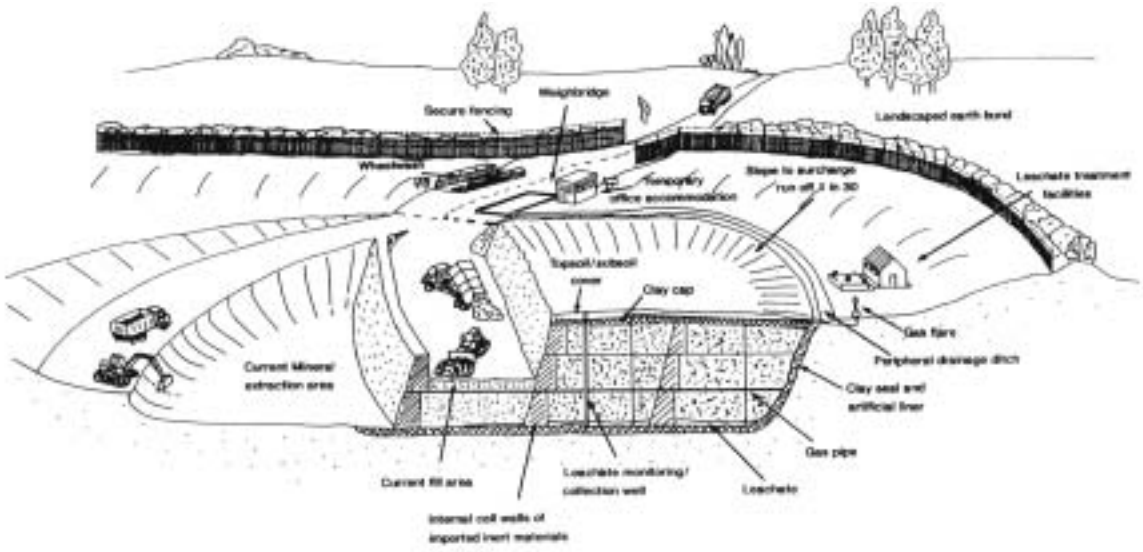
KEY TO PLAN 10.1

Location of Permitted Disposal Sites in Nottinghamshire

KEY

Disposal Sites Accepting Household, Commercial and Non Hazardous Industrial Waste

1. Daneshill
2. Carlton Forest Quarry
3. Bilsthorpe
4. Rufford (inactive)
5. Sutton
6. Fiskerton



Not to Scale

7. Burntstump
8. Staple Quarry (gypsum waste only until 1998)
9. Dorket Head Quarry
10. Barnstone

Disposal Sites Accepting Inert Construction and Demolition Waste

1. Lords Wood Quarry
2. Serlby Quarry
3. Scrooby Top Quarry
4. Vale Road, Mansfield Woodhouse
5. Export Drive, Sutton-in-Ashfield
6. Berry Hill
7. Sutton Quarry
8. Muskham Works (two tips at this site)
9. Coneygre Farm, Hoveringham
10. Bramcote
11. Bunny

TABLE 10.1 **DISPOSAL SITES WITH PLANNING PERMISSION TO ACCEPT HOUSEHOLD, COMMERCIAL NON HAZARDOUS INDUSTRIAL AND INERT CONSTRUCTION AND DEMOLITION WASTE – APRIL 2000**

See Notes below for comments on adequacy of tipping capacity for Plan period and other relevant factors affecting life of site

District	Site	Operator	1999/00 Input Tonnes	Remaining Capacity m^3 as at 31/3/00	Planning Permission expiry date month/year	Estimated Year of Closure (see General Note 3)
Bassetlaw	Daneshill	Waste Recycling Group	148,000	2,600,000	5/2048	2015
Bassetlaw	Carlton Forest Quarry	Waste Recycling Group	87,000	<1,000,000	12/2015	2012
Newark & Sherwood	Fiskerton	Waste Recycling Group	0	Not currently accepting waste	none	Unknown
Newark & Sherwood	Bilsthorpe	Waste Recycling Group	64,000	600,000	11/2007	2006
Newark & Sherwood	Rufford	Notts County Council owned	Inactive	600,000	9/2009	Unknown
Newark & Sherwood	Staple Quarry	Waste Recycling Group and British Gypsum	54,500	2,000,000	10/2024	2020
Ashfield	Sutton	Waste Recycling Group	207,000	1,200,000	none	2007
Gedling	Burntstump	Waste Recycling Group	163,000	500,000	none	2003
Gedling	Dorket Head Quarry	Waste Recycling Group	139,500	2,000,000	none	2020
Rushcliffe	Barnstone	Waste Recycling Group	45,400	125,000	none	2003

Source - Environment Agency and Nottinghamshire County Council

Disposal Sites Accepting
Power Station Ash

1. Bole-ings (West Burton Power Station)
2. On-site (Cottam Power Station)
3. Rampton Gravel Pit (Cottam Power Station)
4. North Scarle (High Marnham Power Station)
5. Girton (High Marnham Power Station)
6. Besthorpe (High Marnham Power Station)
7. Winking Hill (Ratcliffe on Soar Power Station)

Note: The majority of sites that can accept household, commercial and non hazardous industrial waste can also accept inert construction and demolition waste. Some inert sites may also accept limited quantities of non-inert waste.

Scale: 1:312,500 (1” to 5 miles) 1cm = 3.125km

TABLE 10.2 DISPOSAL SITES WITH PLANNING PERMISSION TO ACCEPT MAINLY INERT CONSTRUCTION AND DEMOLITION WASTE – APRIL 2000

See Notes below for comments on adequacy of tipping capacity for Plan period and other relevant factors affecting life of site

District	Site	Operator	1999/00 Input Tonnes	Remaining Capacity m^3 as at 31/3/00	Planning Permission expiry date month/year	Estimated Year of Closure (see General Note 3 Table 10.1)
Bassetlaw	Lords Wood Quarry	G H Wadsworth	3,700	Not Available	12/2028	2016
Bassetlaw	Serlby Quarry	Caird Environmental	3,200	750,000	8/2007	2015
Bassetlaw	Scrooby Quarry	Rotherham Sand & Gravel	246	Not Available	None	2005
Mansfield	Berry Hill Quarry	Mansfield Sand	26,700	Not Available	5/2009	Closed end 1999
Mansfield	Vale Rd Mansfield Woodhouse	Midland Landfill	146,000	2,400,000	11/2009	2009
Newark & Sherwood	Muskham Works	British Sugar	35,000	Not Available	4/2010	2008 +
Newark & Sherwood	Coneygre Farm Hoveringham	C F & J M Lee	2,400	41,000	4/2006	Unknown
Ashfield	Sutton Quarry	Midland Land Reclamation Ltd	105,000	210,000	2/2000	Closed March 2000
Broxtowe	Bramcote Sand Quarry	Biffa Waste Management services	80,000	>1,000,000	10/2008	2008
Rushcliffe	Bunny Quarry	Safe Waste Ltd	90,000	193,000	12/2000	2003

Source - Environment Agency and Nottinghamshire County Council

10.5 The main issues raised by landfill sites are visual impact, traffic and noise. Odour and litter can also be problems at non-inert sites. A further major concern is the risk of pollution through leakage of leachates, particularly where non-inert disposal sites are located within areas where ground water is vulnerable. However, the element of risk can be reduced by appropriate environmental controls and monitoring (see Chapter 3).

10.6 Whilst waste disposal can raise major environmental concerns, an important benefit of landfilling is that in certain situations it may be the most appropriate, if not the only, means for reclaiming mineral sites and other derelict voids.

Figure 10.1 Illustration of a Typical Non-inert Landfill Site.

TABLE 10.3 DISPOSAL SITES FOR POWER STATIONS AND WASTE – APRIL 2000				
Power Station	**Operator**	**Disposal Sites**	**Estimated Permitted**	**Notes on Status and Adequacy of tipping capacity**
Ratcliffe on Soar	PowerGen	Winking Hill, Ratcliffe	2010	Surface disposal at Winking Hill takes PFA and can take waste desulphogypsum, although to date all has been used as a gypsum substitute by British Gypsum. Ltd.
Cottam	PowerGen	On-site lagoons and Rampton Quarry	2010	Capacity adequate for Plan period.
West Burton	Eastern Electricity	Bole-Ings	2010	Site comprises surface disposal near power station.
High Marnham	Eastern Electricity	Girton and Besthorpe Quarries	2005	Disposal phased between 2 quarries. Future requirements very uncertain due to expected increased use of PFA as a secondary aggregate, but potential capacity exists at Girton within existing sand and gravel workings or in land allocated in the Minerals Local Plan.

Source - Environment Agency and Nottinghamshire County Council

(b) Landraising

10.7 The environmental impacts relating to landraising schemes are in many respects similar to those of landfill. The main difference is that because all activities are above ground level, there is greater potential for adverse visual, noise, odour, and litter impact. Landraising also creates artificial contours and changes in drainage patterns, unlike landfilling which generally restores land back close to its original form. Landraising on greenfield sites usually leads to an actual reduction in the quality of the land. The main advantage of landraising is that, because the body of waste is more accessible, it is easier to monitor and maintain pollution control measures for leachates.

General Notes

1. The above input figures may include waste collected outside the County. They cannot therefore be

Scale: 1:312,500 (1" to 5 miles) 1cm = 3.125km

considered as Nottinghamshire's arisings, some of which are recycled and /or exported out of the County.

2. Cubic Metre of void space approximates to 1 tonne of waste (actual values will vary between sites and types of waste).
3. Unless otherwise stated in notes, year of closure based on expiry of planning permission or expected completion of filling void whichever comes first. Not all of permitted disposal scheme may be licensed.

Notes on Sites

1. **Daneshill -** Capacity adequate for Plan period
2. **Carlton Forest -** Capacity adequate for Plan period
3. **Fiskerton -** Site replaced by Staple for 5 Years from April 1998. Timescales for any further waste disposal at Fiskerton unknown.
4. **Bilsthorpe -** Site assumed to be replaced by Rufford (see below).
5. **Rufford -** Planning permission to increase capacity granted, but as yet no license has been applied for. Aquifer constraints will need to be resolved.
6. **Staple -** Main household waste tip opened in July 1998. An established adjacent, but separate, tip taking small quantities of plasterboard waste also exists.
7. **Sutton -** Capacity adequate for Plan period but replacement capacity will need to be resolved by the end of Plan period.
8. **Burntstump -** Capacity inadequate for Plan period - replacement capacity required.
9. **Dorket Head –** Site includes southern extension permitted in 1997 and eastern extension permitted in 1986. Tipping rates constrained by rate of clay extraction.
10. **Barnstone -** Capacity inadequate for Plan period- replacement capacity required. Although outside shortfall area, Staple Quarry and/or Fiskerton could take waste arising from Rushcliffe, especially east Rushcliffe, if no closer options become available. Much depends on expansion of Eastcroft Incinerator.

General Notes - see Table 10.1

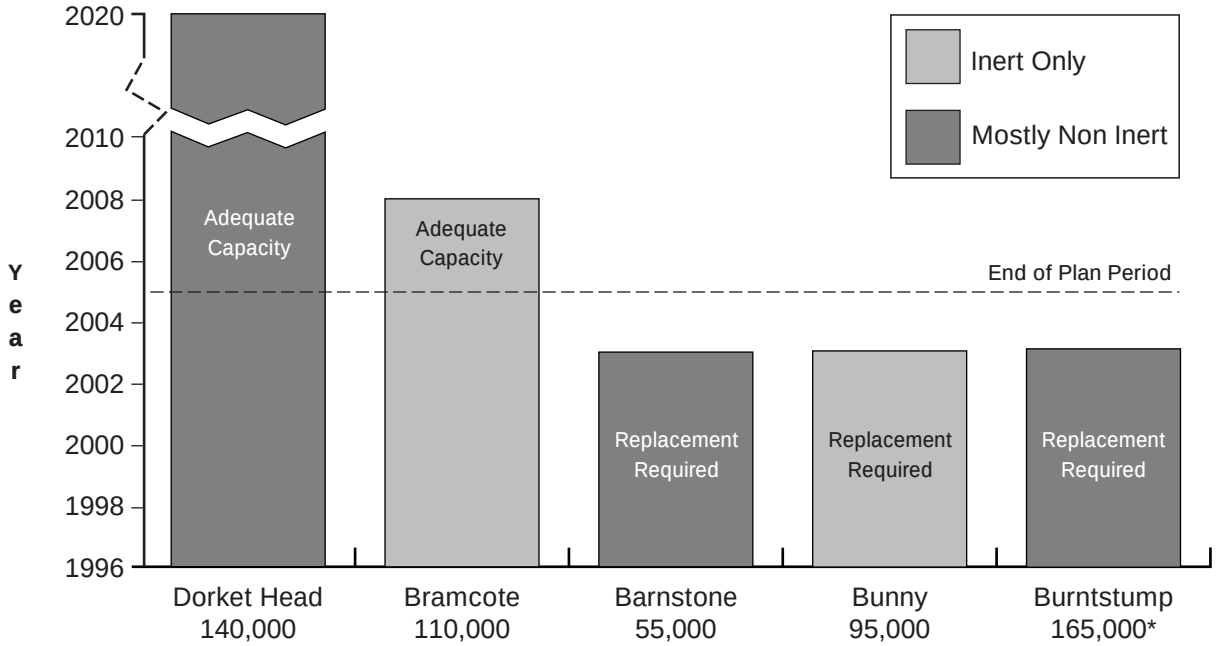
Notes on Sites

1. **Lord's Wood Quarry -** Capacity adequate for Plan period.
2. **Serlby -** Void capacity far exceeds life of planning permission. Extending life of permission or amending reclamation scheme represent most likely future options.
3. **Scrooby -** life linked to sand extraction. Site could be replaced by other long term sites.
4. **Berry Hill –** site closed as permission has been granted for housing development. Alternative sites such as Vale Road, Mansfield Woodhouse have spare capacity. (See below).
5. **Vale Road Mansfield Woodhouse -** Potential void far exceeds current time limit set by planning permission. Extending life of permission or amending reclamation scheme most likely future options. Tipping rates could increase to absorb closure of Berry Hill and Sutton.
6. **Muskham Works -** Life of site difficult to predict because planning permission allows recycling of tipped soils. Longer term capacity beyond 2008 exists within former borrow pit associated with construction of Newark bypass.
7. **Coneygre Farm -** Filling rates have been erratic but remaining capacity expected to be adequate for Plan period. Application for treatment license refused.
8. **Sutton -** Site is expected to be replaced by existing longer term sites.
9. **Export Drive, Sutton in Ashfield -** Site inactive and application to surrender license has been submitted. (Adjacent temp. 77,000 Cubic Metres tip which will allow built development also exists but excluded from Table).
10. **Bramcote -** Capacity adequate for Plan period. Tipping figure quoted relates to 1995 as more recent data unavailable.
11. **Bunny -** Void capacity exceeds life of planning permission by an estimated 2 years. Extending life of planning permission to ensure completion of approved scheme may be the most reasonable solution.

Note: Estimates of Disposal Capacity are probably very conservative. Since privatisation of the industry, increased pressure to sell PFA as a secondary aggregate, reduced power generation due to competition from other fuels, suggests less ash will need to be disposed of in the future. No shortfalls identified during Plan period.

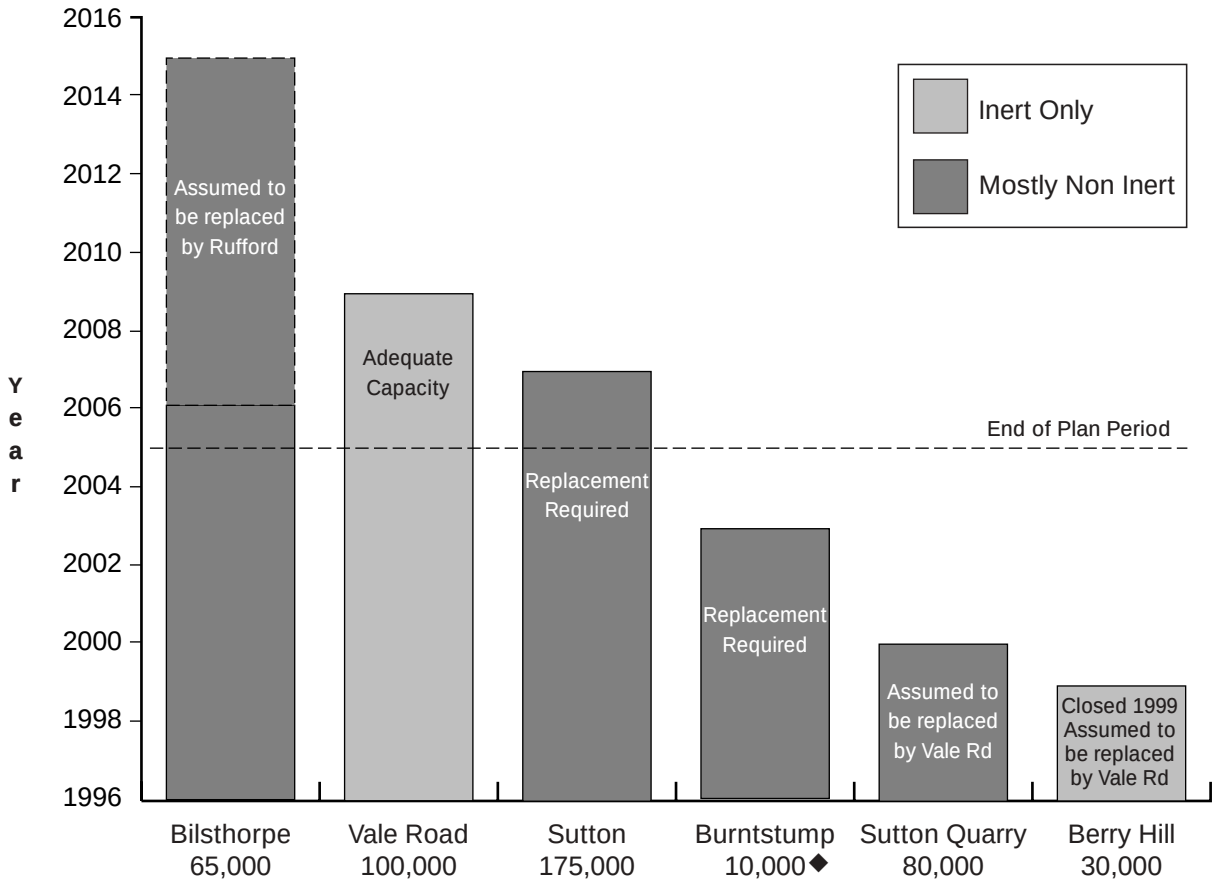
SHORTFALLS IN DISPOSAL CAPACITY

10.8 The adequacy of existing disposal facilities varies considerably between sites, waste categories and parts of the County. For some major categories such as Power Station Ash (see Table 10.3) the existing permitted capacity is adequate for the Plan period. However as indicated in Tables 10.1 and 10.2 a number of sites receiving household, industrial, commercial, demolition and construction waste will be filled before or soon after the end of the Plan period. In some cases shortfalls arising from such closures may be picked up by other longer term sites. However, unless additional capacity is permitted significant shortfalls are expected to arise by the end of the Plan period and further shortfalls are expected soon afterwards. The shortfall areas are indicated in Plan 10.2 and an estimate of when and where the shortfalls are likely to arise are summarised in Table 10.4. The methodology used to identify and quantify these shortfalls and how they translate into the need for new capacity, and the impact of possible changes in waste management practices, are considered below.



Waste Disposal Input in Tonnes per annum. Figures indicate average annual input between April 1997 and April 2000.
***Excludes estimated 10,000 tonnes of waste originating from Mansfield/Ashfield. (See Fig. 10.3).**
Note: All values rounded to nearest 5K.
Barnstone – If no new options become available Staple Quarry and/or Fiskerton may serve as a partial replacement (see Table 10.1, note 10).

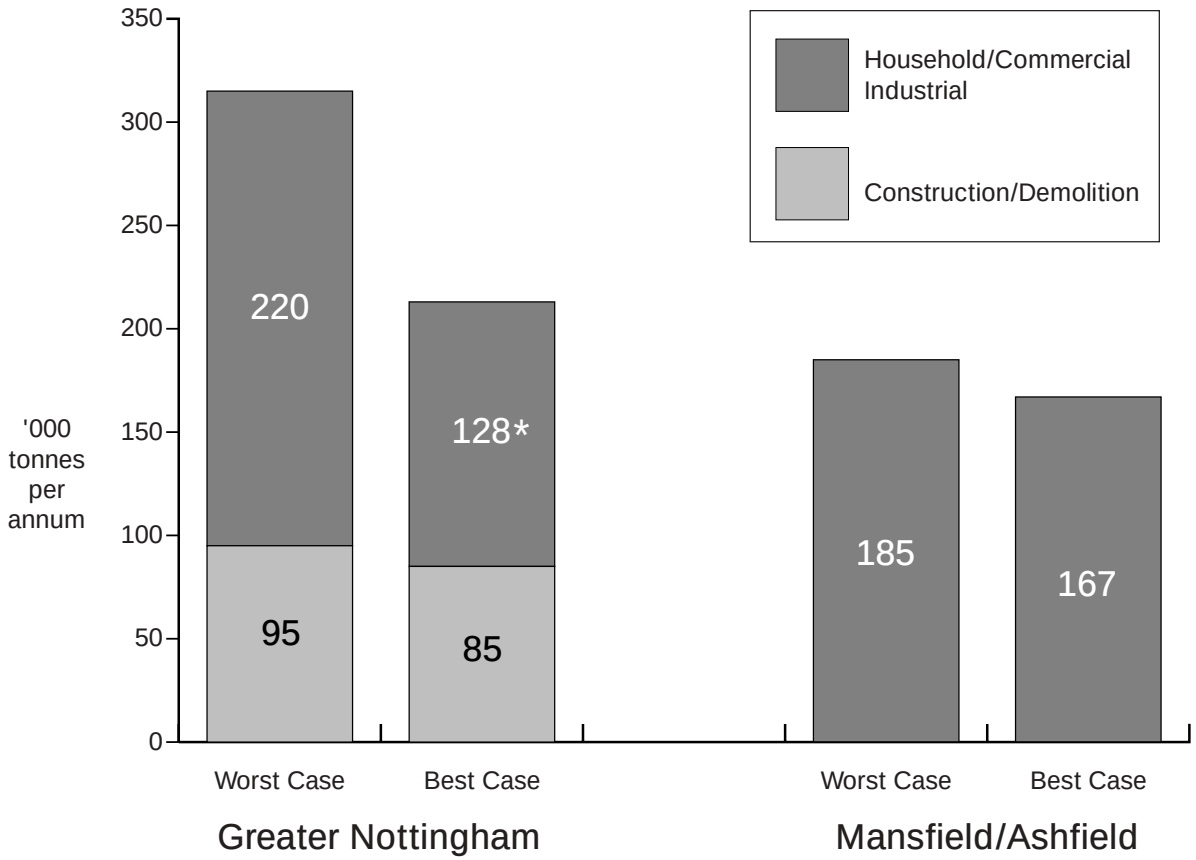
Figure 10.3 – Adequacy of Disposal Facilities Serving Mansfield & Ashfield



Waste Disposal Input in Tonnes per annum. Figures indicate average annual input between April 1997 and April 2000.
◆Tonnage comprises estimated portion arising from mansfield/Ashfield Area (See Fig. 10.2).
Note: All values rounded to nearest 5K.

TABLE 10.4 SUMMARY OF SHORTFALL IN DISPOSAL SPACE OVER THE PLAN PERIOD (based on 'Worst Case Scenario')		
HOUSEHOLD, COMMERCIAL & INDUSTRIAL WASTE		
AREA OF SHORTFALL	APPROXIMATE TIMESCALE SHORTFALL BEGINS	SHORTFALL CAPACITY (tonnes per annum) Values Rounded
GREATER NOTTINGHAM	2003	220,000*
MANSFIELD/ASHFIELD	2003 2007	10,000 185,000
CONSTRUCTION AND DEMOLITION WASTE		
GREATER NOTTINGHAM	2003	95,000

***This is a maximum value as some waste from Rushcliffe, which would have gone to Barnstone, could go to Staple Quarry or Fiskerton if no other closer options exist.**



Note: Values shown are estimated shortfalls expected to arise by the end of the Plan period if no further tipping capacity is permitted. See Paragraphs 10.13 - 10.16 assumptions used.

***In addition to an overall reduction of waste input of 10% the Greater Nottingham 'best case' figure assumes Eastcroft Municipal Third Line comes on stream and reduces 100,000 tonnes waste to 30,000 tonnes of ash per year.**

PLAN 10.2 -

Shortfall Areas

Method of Shortfall Assessment

10.9 The shortfalls given in Table 10.4 have been identified by observing recent disposal patterns and considering the impact of disposal sites predicted to close within the Plan period (see Figures 10.2 and 10.3). Future tipping rates are assumed to remain similar to current rates. This is based on the County Council's Waste Management Statement which predicts that arisings of the above categories of waste in Nottinghamshire will remain at broadly similar levels throughout the Plan period. (Whilst waste arisings do not necessarily correspond to rates of disposal in the County, any significant changes are likely to influence disposal rates assuming waste management practices and movements of waste in terms of exports and imports remain similar.) This methodology can only give a general indication of likely future needs because much of the information used is based on variable and uncertain criteria. For example the estimates of site closure dates, given in Tables 10.1 and 10.2, are based on recent inputs of wastes which may change through time. Allowances for settlement as tipping progresses are also difficult to accurately predict. Additionally, the reliability of void calculations made by operators is likely to vary from site to site.

10.10 **Important Note** : The shortfall estimates set out below pre-date the publication of the new national strategy 'Waste Strategy 2000'. This strategy sets out specific targets which principally aim to reduce the proportion of household waste going to landfill during the period 2003 - 2020. The assumptions made in the Plan also consider possible reductions in waste disposal, which, although not based on Waste 2000 produce a similar outcome in terms of estimated shortfalls. The longer term implications of this Strategy, along with the future development and success of the integrated waste management strategies described in Chapter 1 will be taken into account when this Plan is reviewed.

Greater Nottingham Area

10.11 During the Plan period, the completion of Barnstone and Burntstump tips in 2003 will result in a shortfall of 220,000 tonnes per annum. The loss of Barnstone may initially be absorbed by other sites in the Nottingham area, from where much of Barnstone's waste is sourced. If no other closer sites become available, then Staple Quarry and/or Fiskerton could take waste from the southern part of the Greater Nottingham shortfall area, ie Rushcliffe and these may serve as a partial replacement. A more critical event will be the loss of Burntstump, as then the only currently consented site near Nottingham capable of taking large quantities of non-inert waste will be Dorket Head, whose input rates are limited by the phased clay extraction. This implies that additional capacity to serve the Greater Nottingham area needs to be permitted by this date, if waste is to be disposed of locally. From 2003 there will also be an estimated shortfall in disposal capacity for inert waste of 95,000 tonnes per annum following the closure of the Bunny Landfill site. If no replacement capacity is found by this date, then inert waste would most likely have to be disposed of at sites such as Bramcote or the non-inert sites noted above.

Mansfield/Ashfield Area

10.12 The Mansfield/Ashfield area is also anticipated to have a shortfall in capacity during and immediately beyond the Plan period. Initially, this is likely to be limited to 10,000 tonnes per annum due to the closure of Burntstump Landfill in 2003. This small shortfall could be absorbed at other sites, such as Sutton or possibly Dorket Head if no new capacity has been permitted. The critical time will come when the Sutton Landfill site closes in 2007, which will result in a total shortfall of 185,000 tonnes per annum. Although this falls beyond the Plan period (which ends on 31 December 2004) a replacement site will need to be planned for and permitted well in advance if continuity is to be maintained. Accordingly, it is considered relevant to take account of this during the current Plan period.

Best and Worst Case Scenario's

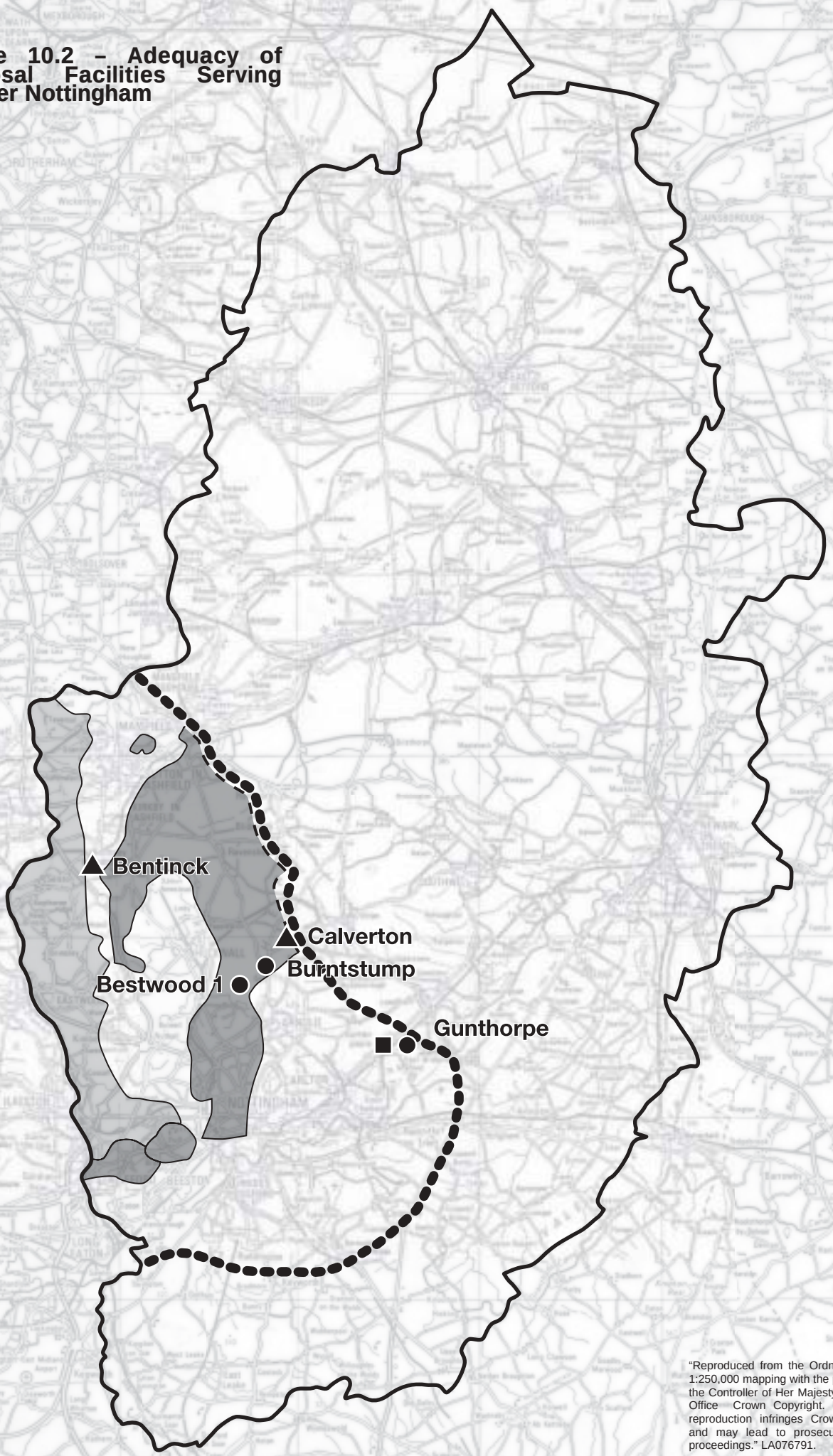
10.13 These shortfalls are equivalent to the need to provide one, or possibly two, major non-inert and one major inert disposal sites to serve the Greater Nottingham area. The Mansfield/Ashfield area will require one or possibly two large non-inert disposal sites.

10.14 These predictions are based on a "worst case" scenario and assume that the policies contained within Chapters 5 - 9 have little impact on reducing disposal needs (see Figure 10.4). These chapters aim to encourage other forms of managing waste, including household waste recycling centres, materials recycling facilities, mini recycling centres, aggregate recycling centres, scrapyards, composting facilities and waste treatment such as incineration. The role of more experimental waste management methods is also considered.

10.15 In particular the "worst case" scenario assumes that the third line at the Eastcroft Incinerator does not become operative and recycling, composting and other treatment initiatives do not increase their role significantly. It is essential to consider this scenario, as the Plan can only encourage, not force, the waste industry to take up these opportunities. Proposals for more sustainable methods of managing waste are not certain to come forward.

10.16 The "best case" scenario assumes that the third line at the Eastcroft Incinerator becomes operative by around 2000 and that recycling, reuse and other initiatives result in a 10% decrease in the quantity of waste currently being disposed of in Nottinghamshire (see Figure 10.2). The 10% estimate is speculative but represents a very significant improvement above current levels. Although this would result in an important and sizeable reduction in the overall shortfall capacity required, particularly for non-inert waste, it is not likely to have sufficient impact so as to alter the number of replacement sites required during the Plan period (see para 10.13).

Figure 10.2 – Adequacy of Disposal Facilities Serving Greater Nottingham



FOR KEY SEE OVER

Figure 10.4 – Forecast Shortfalls – Best and Worst Case Scenarios

Shortfalls in the Longer Term

10.17 As indicated in Figures 10.2 and 10.3, three major disposal sites are anticipated to close around 2008/9 (based on the "worst case" scenario). Just how these and other shortfalls that may arise will be best resolved will be a major issue for the Waste Local Plan Review (see Para 1.26).

CRITERIA FOR PERMITTING WASTE DISPOSAL PROPOSALS

10.18 The above analysis indicates that there is a need to find suitable disposal sites to meet the shortfall as soon as possible. In order to conform to the Government's "proximity principle" (see Chapter 2, Para 2.22) sites must be as near as possible to the sources of waste. In addition, new disposal capacity must be directed towards areas where it has both the least environmental impact and the maximum opportunity to gain environmental improvements, for example by, reclaiming a worked out quarry. It is also important that potential disposal capacity is preserved for future generations and sites are not unnecessarily used up. Future proposals must therefore be able to demonstrate a recognised need.

Mineral Sites, Other Voids & Incomplete Colliery Spoil Heaps

10.19 In Nottinghamshire, opportunities to gain environmental improvements through waste disposal comprise the infilling of mineral and other voids such as disused railway cuttings, and the reclamation of incomplete colliery spoil tips. The lattermost situation has arisen due to the recent rapid contraction of the deepmine coal industry, which has caused the closure of fifteen collieries in the County since 1993. Many of these are now subject to recently agreed reclamation schemes to various after-uses. In considering such sites, the value of any nature conservation interest, which may have arisen due to natural regeneration or planned restoration, will need to be taken into account (see Policies in Chapter 3).

POLICY W10.1

PROPOSALS FOR THE RECLAMATION OF MINERAL OR OTHER VOIDS AND/OR INCOMPLETE COLLIERY SPOIL HEAPS THROUGH WASTE DISPOSAL WILL BE PERMITTED PROVIDED THEY:

(a) ACHIEVE ENVIRONMENTAL BENEFITS AND,

(b) MEET A RECOGNISED NEED FOR ADDITIONAL DISPOSAL CAPACITY AND,

(c) DO NOT HAVE AN UNACCEPTABLE ENVIRONMENTAL IMPACT.

Derelict or Degraded Land

10.20 There are very few if any significant derelict or degraded areas of land in Nottinghamshire which would be suitable for waste disposal. Appropriate

circumstances include the reclamation of derelict voids (the justification being as described in Para 10.6) and where contaminated soils need to be removed and the resulting voids replaced with suitable waste. There may also be situations where waste disposal is the only economically viable means for reclaiming derelict or degraded land. Notwithstanding the above exceptions, in most cases derelict and degraded land can be reclaimed without the need to import waste. In view of the general environmental disadvantages associated with land raising (see Para 10.7) waste disposal on derelict and degraded land is only acceptable where it represents the only viable option in environmental and economic terms.

POLICY W10.2

PROPOSALS FOR THE RECLAMATION OF DERELICT AND DEGRADED LAND THROUGH WASTE DISPOSAL WILL BE PERMITTED PROVIDED THEY:

(a) ACHIEVE ENVIRONMENTAL BENEFITS;

(b) REPRESENT THE BEST OPTION FOR RECLAIMING THE LAND;

(c) MEET A RECOGNISED NEED FOR ADDITIONAL DISPOSAL CAPACITY; AND

(d) DO NOT HAVE AN UNACCEPTABLE ENVIRONMENTAL IMPACT.

Greenfield Sites

10.21 Waste disposal on greenfield sites is considered to be inappropriate for Nottinghamshire. No environmental benefits are achieved and due to the raising of ground levels and the creation of slopes, land can rarely be put back to its original quality and landscape character. This option falls at the very bottom of the Government's waste management hierarchy. As Nottinghamshire has enough potential disposal sites where environmental benefits could be achieved (see below), disposal on greenfield land is not considered necessary or acceptable. It is, however, possible that schemes involving the reclamation of voids or derelict land may, by necessity, include incidental areas of greenfield land in order to achieve the optimum reclamation scheme. Such schemes would by virtue of their nature be primarily assessed against Policies W10.1 and W10.2, rather than W10.3.

POLICY W10.3

PROPOSALS FOR WASTE DISPOSAL ON GREENFIELD SITES WILL NOT BE PERMITTED, EXCEPT WHERE INCIDENTAL AREAS OF GREENFIELD LAND ARE REQUIRED TO BE INCLUDED SO AS TO ACHIEVE AN OPTIMUM

1 *The SINC Panel met in July 2000 and determined that Bentinck Void was of sufficient interest to qualify as a Site of Nature Conservation Importance. Formal designation through the planning system is dependent upon the site's inclusion in the Ashfield District Local Plan.*

POTENTIAL OPTIONS FOR MEETING SHORTFALLS

10.22 Waste disposal sites require long lead times, from identification of suitable sites, gaining ownership and other legal rights, to finally acquiring planning permission and site licences. It is important therefore that suitable sites which meet the requirements of the shortfall areas (see Plan 10.2) are identified as soon as possible. Potential sites are indicated in Plan 10.3.

10.23 **Important Note:** In order to assess the most suitable options, all known existing and foreseeable voids with potential to serve the shortfall areas have been assessed in terms of their suitability for waste disposal. For each existing and potential option, brief summaries of the main features and constraints are provided. Where a suitable option has been identified, and there is sufficient certainty as to its availability, it has been allocated. Should other existing or future sites come forward, these would be tested against Policies W10.1 and W10.2. Finally, the implications of not permitting sites within the shortfall areas are discussed.

10.24 The planning position for potential sites discussed below is accurate as at October 2000 (when the Schedule of Proposed Modifications was published). Subsequent changes, such as the granting of new planning permissions, are not taken into account. Where such changes have Plan implications, they will be treated as "material considerations" in reaching any subsequent planning decision.

(A) EXISTING MINERAL VOIDS AS POTENTIAL DISPOSAL SITES

10.25 The sites in this category comprise all existing mineral voids located in the shortfall areas. They either have infilling conditions which have not been complied with, or have poor or non-existent reclamation conditions. Voids which are already subject to infilling schemes or have alternative satisfactory reclamation schemes, are not considered as potential options.

Gunthorpe

10.26 A series of lagoons, some part filled, some partly reclaimed or naturalised, exist within this sand and gravel quarry, which closed in 1979. Although infilling conditions exist over much of this quarry, these have not generally been complied with. This is due to a lack of suitable fill and old, weak planning conditions. Whilst there remains a need to secure a proper reclamation scheme for this quarry, much will depend on any future proposals to open up adjacent land allocated in the Minerals Local Plan (see Paras 10.30-32 for reclamation options).

Bestwood No 1

10.27 Production at this large sand quarry ceased in 1981 due to a rationalisation of other sites owned by Tarmac Roadstone. A significant part of the quarry is subject to an infilling scheme, which was completed in July 1995. Part of the quarry was excluded in order to conserve the remaining permitted sand reserves which may be recovered in the future. Waste is restricted to construction and demolition categories due to the proximity of the Sherwood Sandstone aquifer.

10.28 In 1995, the waste operator, Biffa, submitted a planning application to fill the remainder of the quarry. This included extraction of some of the sand reserves for a period of 4 years. Whilst, this proposal represented a satisfactory reclamation solution, permission was refused in July 1995, primarily due to access problems. Any future proposals are likely to depend on the ability to create an alternative access. If such a scheme was permitted it would help resolve some of the future shortfalls in construction and demolition waste capacity in the Greater Nottingham area.

(B) FUTURE MINERAL VOIDS AS POTENTIAL DISPOSAL SITES

10.29 The situations described below, are potential voids which might be created during the Plan period. There is of course no certainty that such voids will come into existence, and timescales and suitability for waste disposal must be considered speculative. Therefore, such sites cannot be allocated, but should proposals come forward they would be tested against Policy W10.1.

Gunthorpe (Minerals Local Plan Allocation)

10.30 The Minerals Local Plan allocates 80 hectares of land at Gunthorpe to serve as a replacement to Holme Pierrepont. The timescales are uncertain, although reserves at Holme Pierrepont may become exhausted before the end of the Waste Local Plan period. The land is owned by Severn Trent plc, and forms part of the Stoke Bardolph sewage sludge disposal area.

10.31 Any proposal to open up a new quarry will need to include a comprehensive reclamation scheme for both the allocated area and the existing workings (see Para 10.26). As noted in the Minerals Local Plan, in principle, a water recreational after-use may be acceptable which will not require any importation of fill. Much will depend on Severn Trent's land requirements for sludge disposal which might require at least part of the site to be backfilled.

10.32 Infilling options would most likely be restricted to construction and demolition wastes, due to the need to protect the River Trent from pollution. Gunthorpe's role may therefore be limited to meeting future shortfalls of this category of waste in the Greater Nottingham area.

New Sand Quarries

10.33 The main Sherwood Sandstone outcrop extends in a broad belt from Nottingham, northwards towards Sherwood Forest. A number of large sand quarries exist, some of which (as noted above) have been subject to infilling schemes. The Sherwood Sandstone is a major aquifer and this factor is likely to restrict the range of wastes which can be disposed of in these voids. The main consideration is Burntstump Quarry which is substantially worked out and extraction and infilling with waste is expected to be completed by 2003. As considered in the Minerals Local Plan (Chapter 7) there is an excess of permitted reserves and production capacity of Sherwood Sandstone in the County. This means that in the short to medium term the need for a replacement sand quarry is in doubt. Nevertheless, if a new sand quarry was approved it may represent one of the few options for creating substantial new void capacity in the Greater Nottingham area, within the timescales required.

2 *Bowman Planton Associates 'A Concept Restoration Scheme for Bentinck Tip and Void, Kirkby-in-Ashfield, Nottinghamshire' August 2000.*

PLAN 10.3 -

Potential Void Capacity in Nottinghamshire

KEY TO PLAN 10.3

Potential Void Capacity in Nottinghamshire

Limit of Shortfall Area

Existing Potential Mineral Voids
(current reclamation options uncertain)

Allocated Site in Minerals Local Plan

Unreclaimed Colliery Spoil Heap

Opencast Coal Resource Area
– where potential future voids might arise

Sherwood Sandstone Resource (within shortfall area)
– where potential future voids might arise

Scale: 1:312,500 (1” to 5 miles) 1cm = 3.125km

10.34 In 1999 a planning application to extend the quarry and backfill with household, commercial and industrial waste was submitted. The proposal was to extract 1.7 million tonnes of sand and to backfill with 1.9 million cubic metres of waste. This followed a similar proposal, submitted in 1990 which was subsequently withdrawn, a principal concern being the possible impact on the aquifer. The Environment Agency is of the view that, whilst a pollution risk is not proven, disposal of non-inert wastes in sites where major aquifers are not at a risk must be favoured where available. In August 2000 the mineral operator made public its intention to pursue an alternative sand only extraction scheme which would reclaim the site to a low level.

New Opencast Coal Sites

10.35 The exposed coalfield, which exists in the west of the County between Trowell and Teversal has been worked extensively for opencast coal and further proposals are likely. The Measures predominantly comprise clays and shales with some sandstone bands. These are classified as a minor aquifer by the Environment Agency and, subject to individual site assessments, may be suitable for receiving a wide range of waste. Whilst opencast coal sites can normally be worked and reclaimed without the need to backfill, it may be possible to engineer schemes to create a void. (A recent example included Coronation Road Site at Cossall.) This may be desirable if it results in a better landform, and there are no other environmental concerns as a result of importing waste. Such concerns are likely to include extra traffic and prolonging the overall disturbance.

10.36 Further requirements for opencast coal are set out in Chapter 12 of the Minerals Local Plan. No sites are allocated, but the Plan recognises that opencast coal proposals may be permitted, subject to various criteria being met. Schemes in the south of the resource may be able to help meet shortfalls in all categories of waste identified in the Greater Nottingham area. Those in the north of the resource may be better placed to meet shortfalls in household, industrial and commercial waste in the Mansfield area.

10.37 Whilst opencast coal extraction may provide suitable waste disposal options such opportunities must be considered very uncertain and speculative at the present time.

(C) UNRECLAIMED COLLIERY TIPS (DUE TO MINE CLOSURES)

10.38 The recent major contraction of the coal mining industry has resulted in many colliery tipping areas being closed prematurely. Further pit closures cannot be ruled out. At most closed tips alternative reclamation schemes have been agreed with the County Council which do not involve the importation of waste. Within the shortfall areas there remain two tips where void capacity, above that required for tipping, exists or may exist in the future. These are considered below.

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Chapter 4: Reclamation

Chapter 5: Waste Recycling

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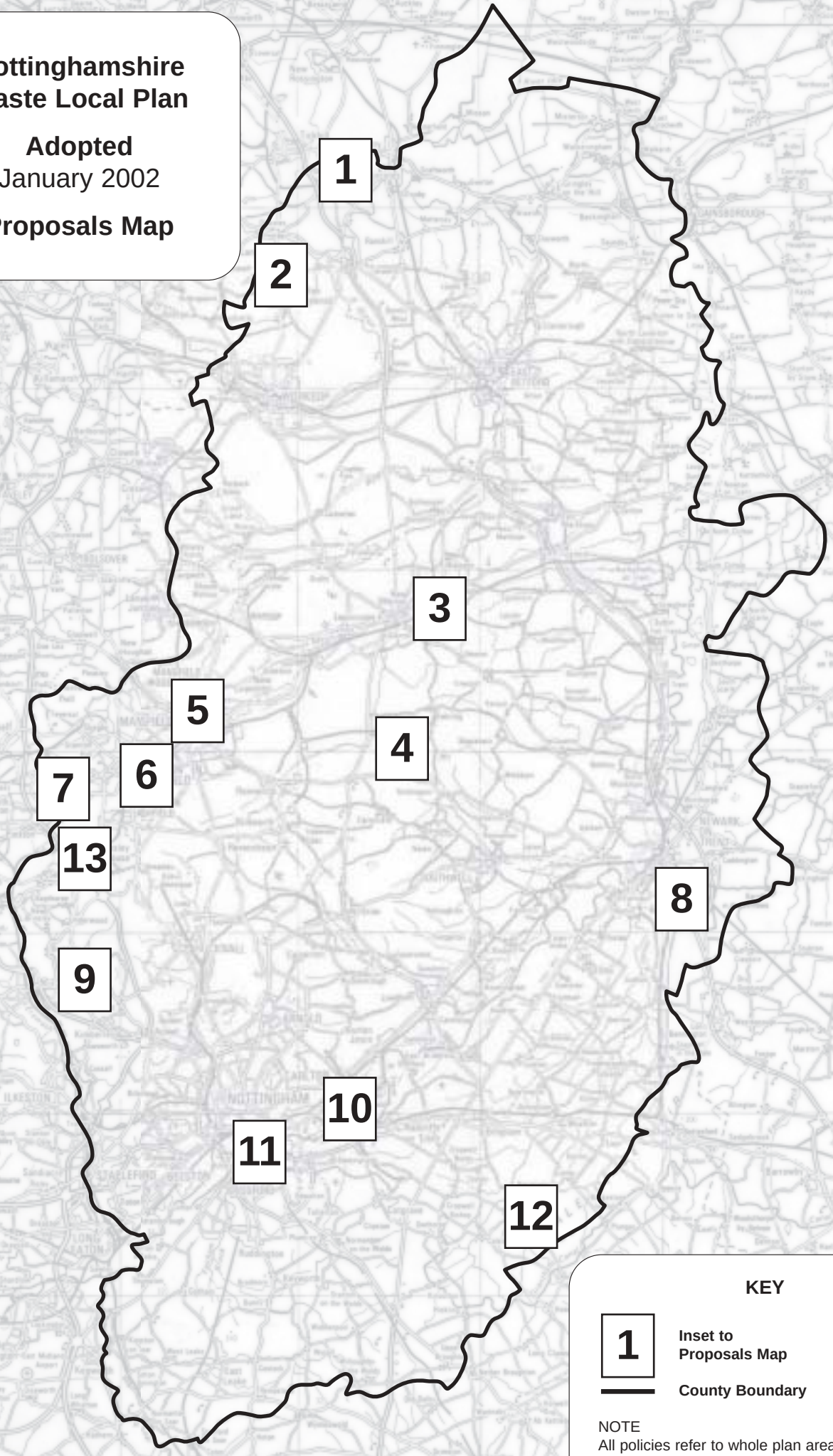
Nottinghamshire Waste Local Plan

Adopted
January 2002

Proposals Map



KEY

1 **Inset to Proposals Map**

County Boundary

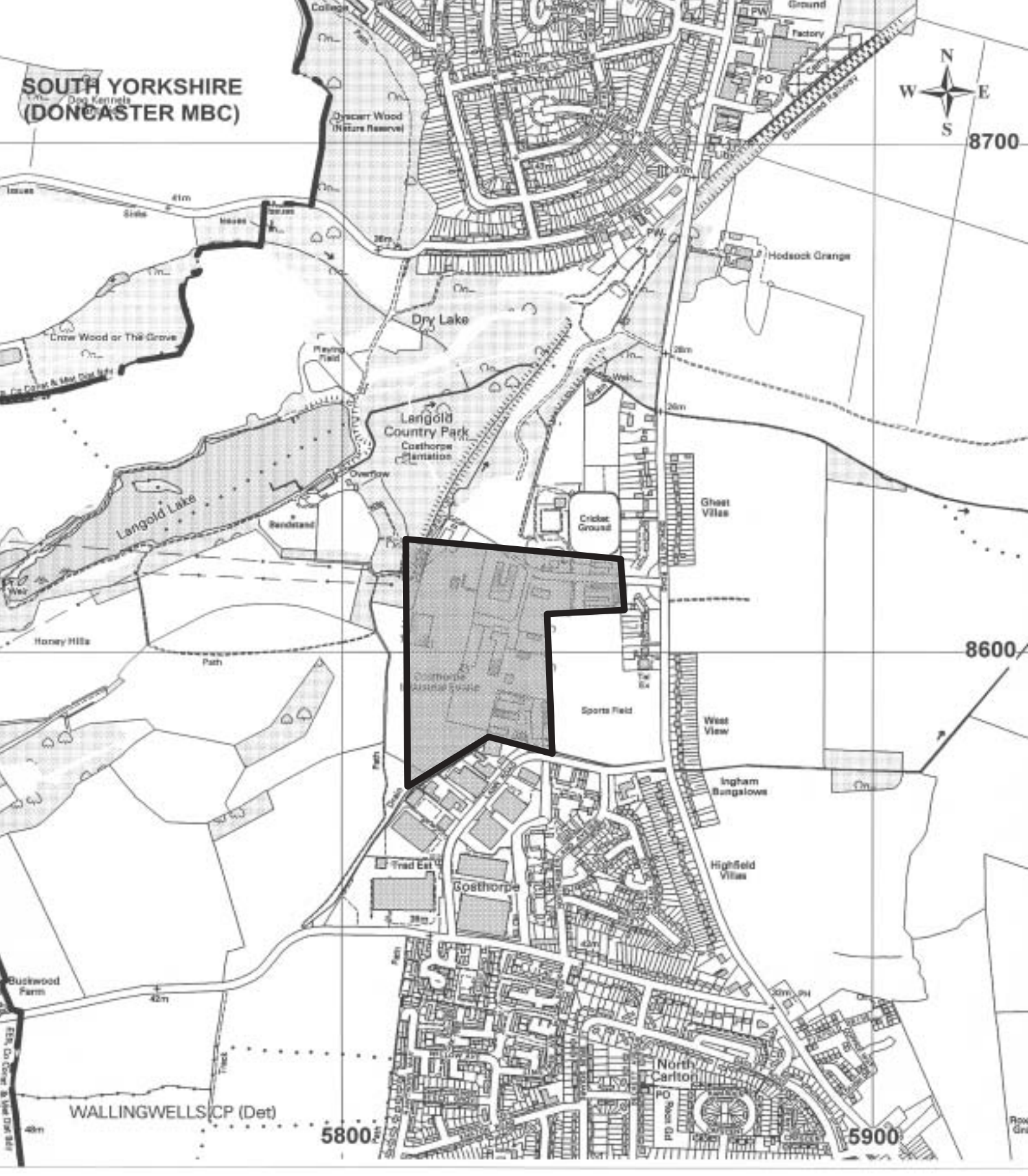
NOTE
All policies refer to whole plan area except policies W5.1, W5.7, W5.10, W7.1, W8.1, W9.1, W10.4 and W10.5.

Nottinghamshire and Nottingham Waste Local Plan,
Adopted January 2002

Area of Search - Inset No 1

Blyth Road (West), Harworth

Policy W5.1(a) & W9.1(a)



Nottinghamshire and Nottingham Waste Local Plan,
Adopted January 2002

Area of Search - Inset No 2

Firbeck

Policy W5.1(b), W5.7(a), W5.10(a), W9.1(b)

Nottinghamshire and Nottingham Waste Local Plan, Adopted January 2002

Area of Search - Inset No 3

Boughton (North)

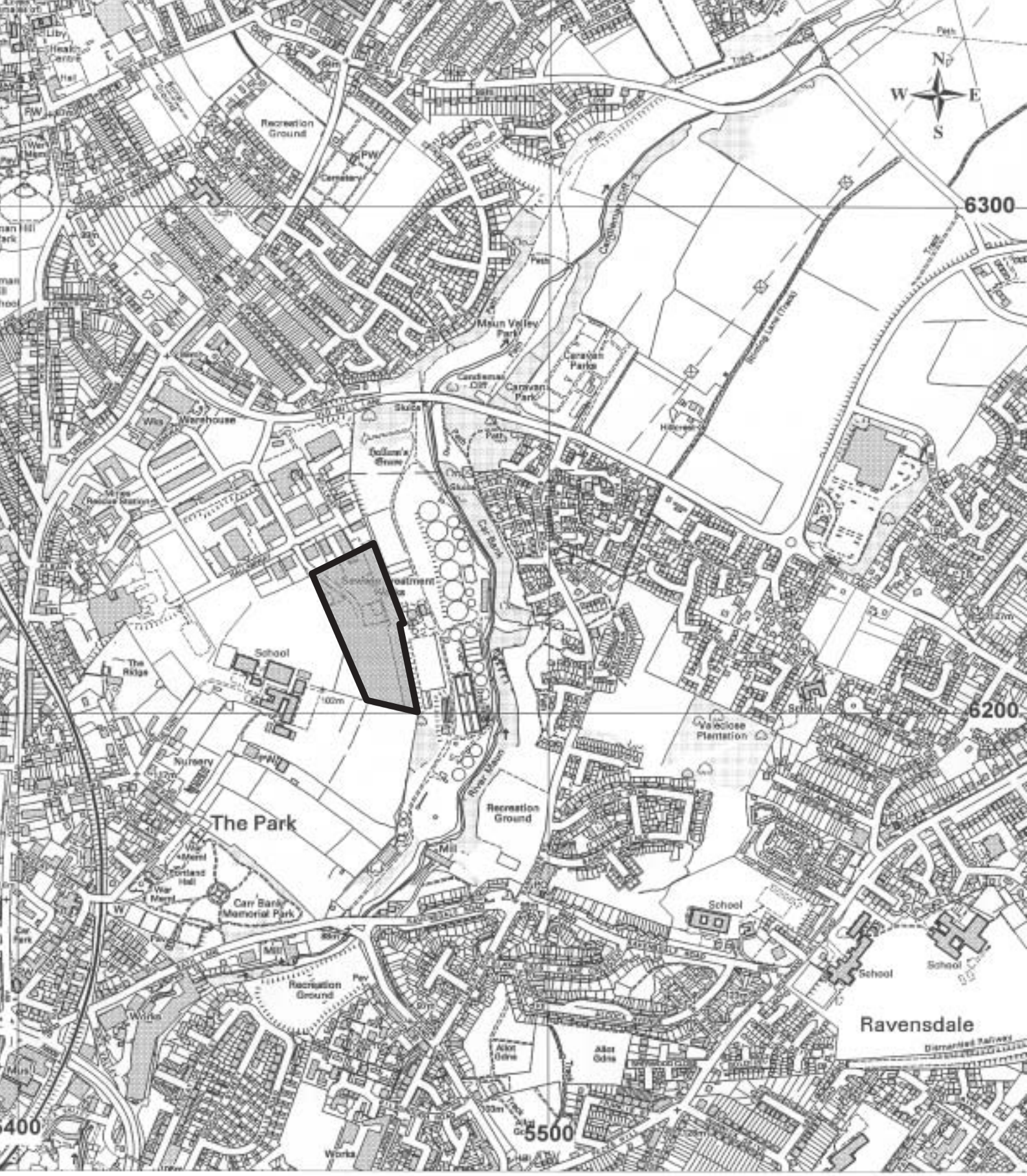
Policy W5.7(b), W5.10(b), W7.1(a), W9.1(c)

Nottinghamshire and Nottingham Waste Local Plan, Adopted January 2002

Area of Search - Inset No 4

Brailswood Road, Bilsthorpe

Policy W5.7(c), W7.1(b), W9.1(d)



Nottinghamshire and Nottingham Waste Local Plan, Adopted January 2002

Area of Search - Inset No 5

Old Mill Lane, Mansfield

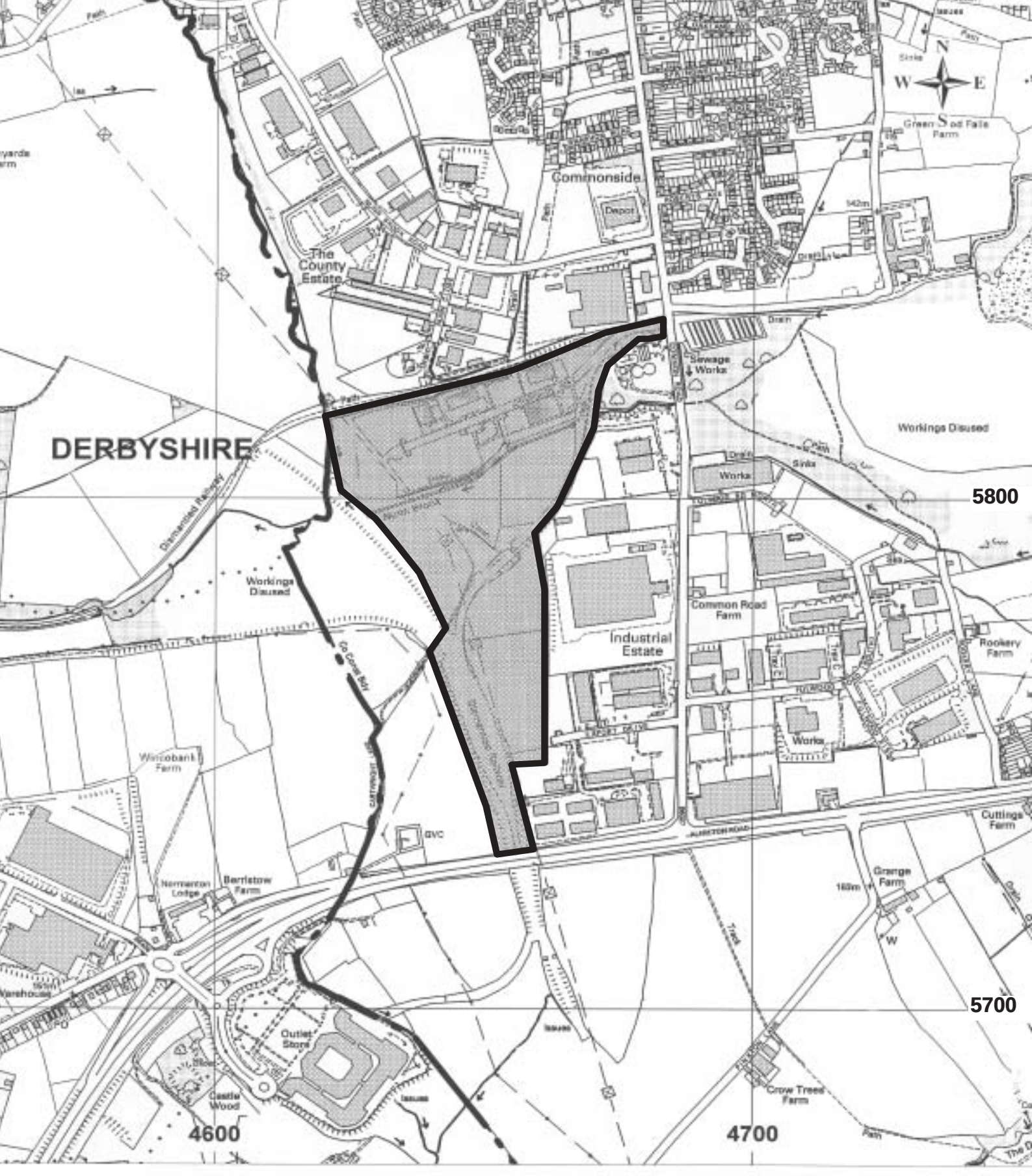
Policy W5.1(c), W5.7(d), W5.10(c), W7.1(c), W9.1(e)

Nottinghamshire and Nottingham Waste Local Plan, Adopted January 2002

Area of Search - Inset No 6

Bleak Hills, Mansfield

Policy W9.1(f)



Nottinghamshire and Nottingham Waste Local Plan, Adopted January 2002

Area of Search - Inset No 7

Land West of Fulwood, Sutton-in-Ashfield

Policy W9.1(g)

Nottinghamshire and Nottingham Waste Local Plan, Adopted January 2002

Area of Search - Inset No 8

Belvoir Ex-Ironworks, Balderton

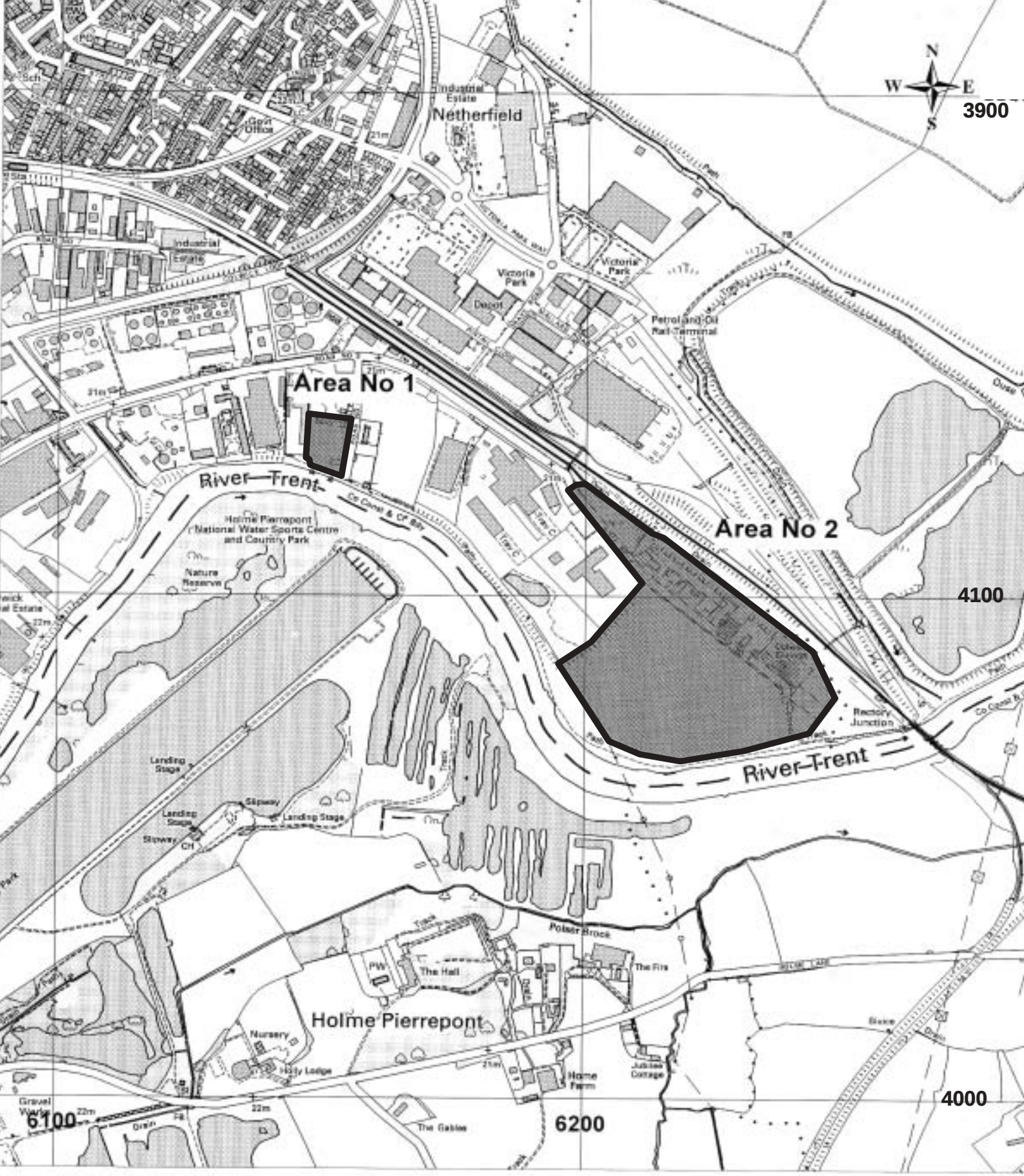
Policy W5.7(e) & W9.1(h)

Nottinghamshire and Nottingham Waste Local Plan, Adopted January 2002

Area of Search - Inset No 9

Land Off Newmanleys Road, Eastwood

Policy W9.1(i)

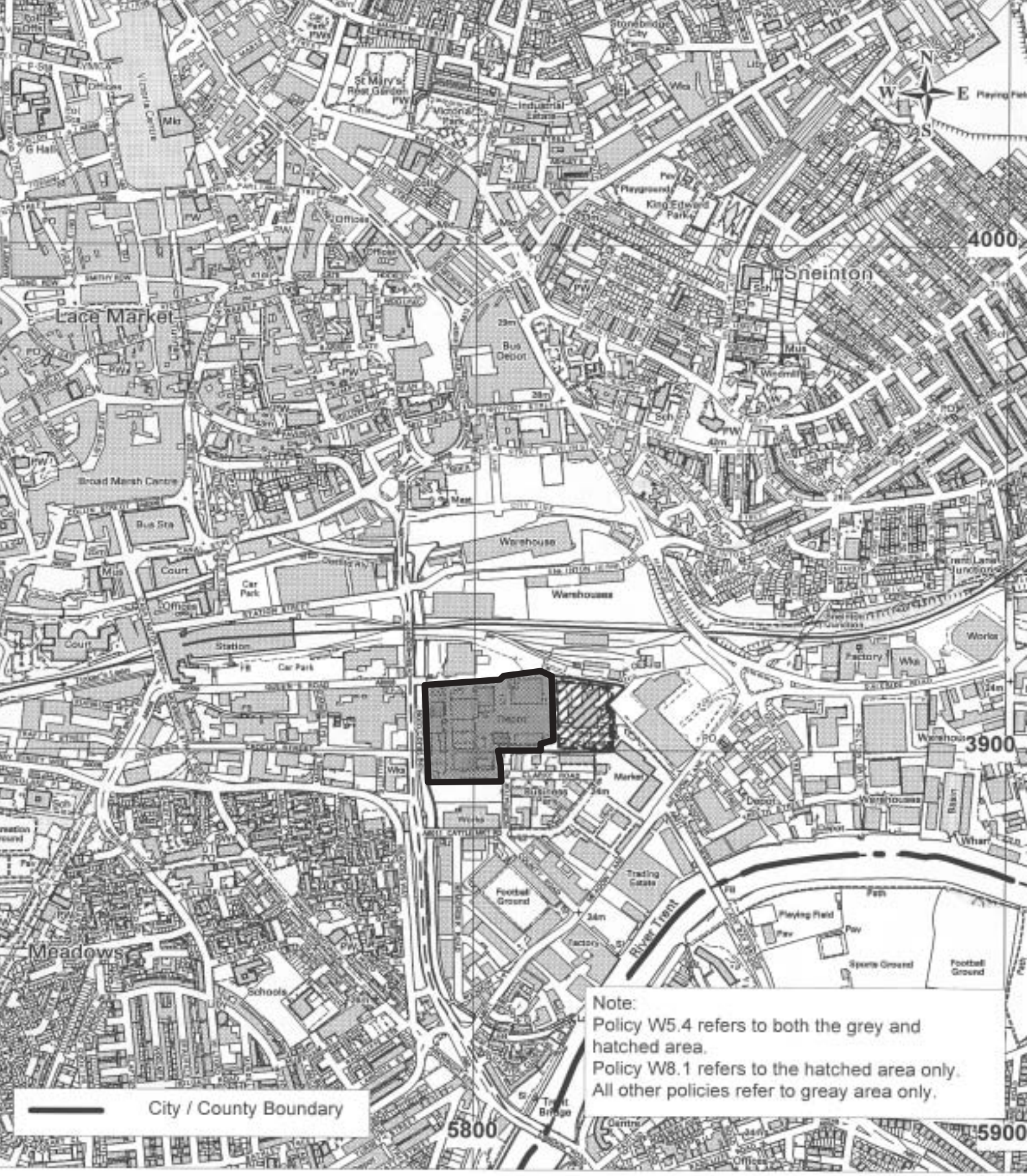


Nottinghamshire and Nottingham Waste Local Plan
Adopted December 2001

Area of Search - Inset No 10

Colwick Area No 1 & No 2

Policy W5.1 (d,e), W5.7(f), W5.10(d,e), W7.1(d,e), W9.1(j,k)



Nottinghamshire and Nottingham Waste Local Plan, Adopted January 2002

Area of Search - Inset No 11

Eastcroft

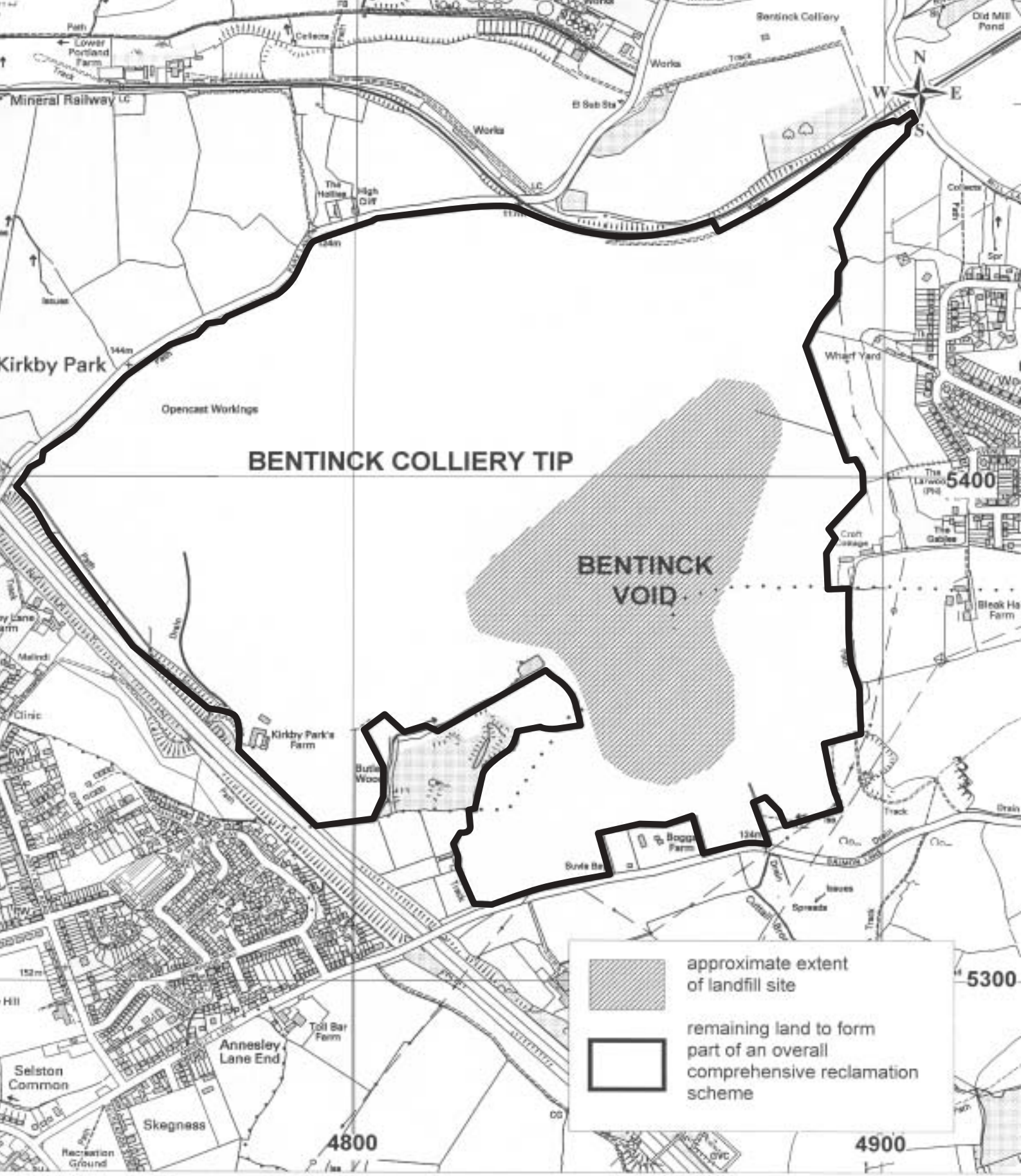
Policy W5.1(f), W5.4, W5.7(h), W8.1(g), W9.1(l)

Nottinghamshire and Nottingham Waste Local Plan, Adopted January 2002

Area of Search - Inset No 12

Langar Industrial Estate

Policy W9.1(m)



Nottinghamshire and Nottingham Waste Local Plan, Adopted January 2002

Bentinck Allocation - Inset No 13

Waste Disposal - Policy W10.4

Nottinghamshire County Council
Environment

City of
NOTTINGHAM

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