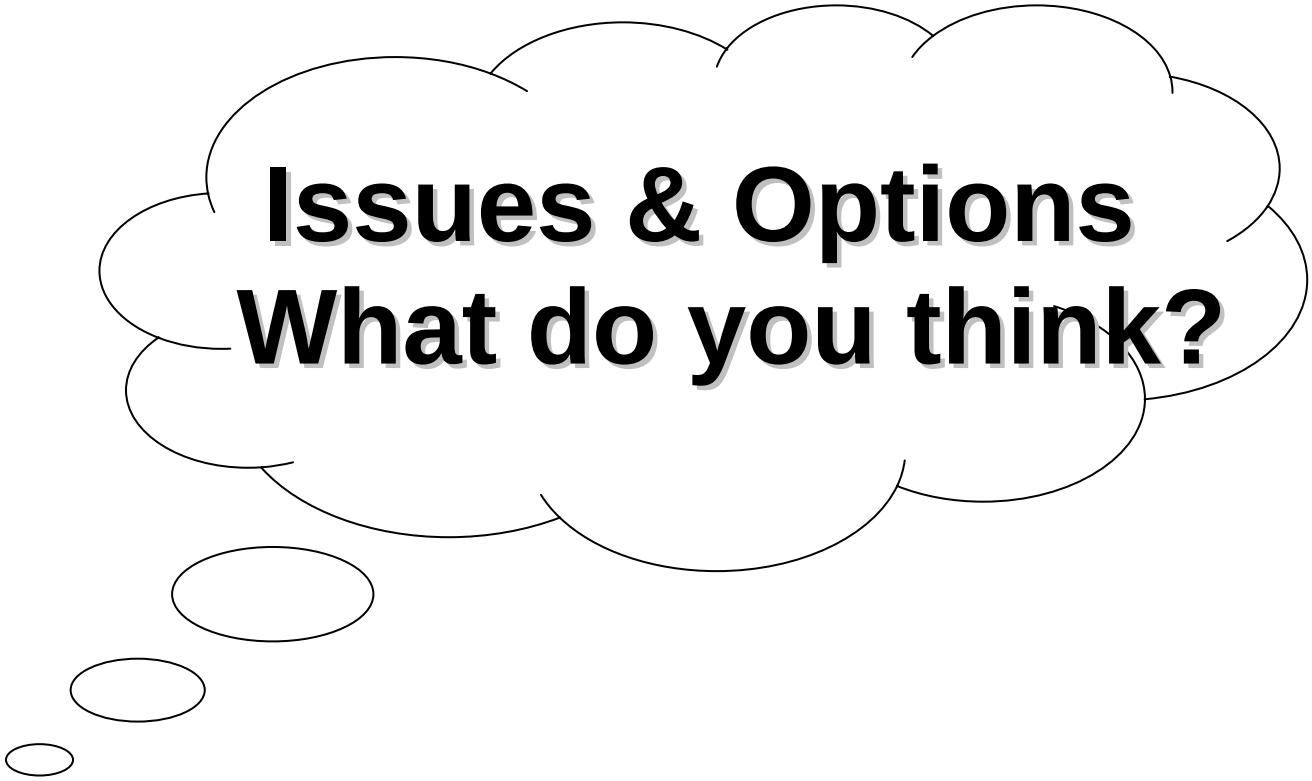
Nottinghamshire & Nottingham Waste Core Strategy & Development Control Policies



Issues & Options What do you think?

Background Paper 10: Other Wastes

Nottinghamshire County Council

Nottingham City Council

1. Introduction

1.1 Nottinghamshire County Council and Nottingham City Council are preparing a new set of waste planning policies for Nottinghamshire. These will replace the existing waste local plan and will be part of both councils' new local development frameworks. The new waste policies will be set out in three separate documents. The first of these, the waste core strategy and the development control policies are being prepared together and will set out future requirements, suitable location criteria and appropriate environmental controls. A site-specific document will follow.

1.2 As part of preparing these new planning policies for waste, the County Council and City Council have produced a series of background papers to provide more detail on the 'Issues and Options consultation exercise (see below).

Purpose of this Background Paper

1.3 Background Papers 1 – 9 set out basic facts and figures on waste management in Nottinghamshire and consider the main types of waste management technology (e.g. recycling, composting, landfill etc.). These papers focus on the three main waste streams of municipal, commercial and industrial, and construction and demolition waste. Other wastes such as agricultural waste, power station ash and hazardous waste tend to raise only very limited issues or need a very specialist type of waste management. This background paper is therefore intended to cover these other wastes that have not been considered in the other papers and is therefore likely to be more relevant to anyone who has a specific interest in one or more of these waste types.

1.4 If you feel that there are other issues, relevant to the Waste Core Strategy, that have not been covered in this Background Paper please feel free to mention this in your response.

Further information

1.5 For further information, copies of other background papers or to join in the Issues and Options consultation please contact the Minerals and Waste Policy Team at the County Council or the City Development Team at Nottingham City Council. Details are shown on the back cover.

Please note that, unless stated otherwise, all references to Nottinghamshire within this paper include the City of Nottingham.

2. What are the other types of waste produced in Nottinghamshire?

2.1 The different categories of waste that are covered in this Background Paper are set out below. Later sections look at these wastes in turn and set out how much is produced, how it is managed and likely future trends. This will help us to identify what, if any, implications should be addressed in the emerging Waste Core Strategy.

Panel 1: Other types of waste

Agricultural waste is mostly animal slurry and vegetable matter but many farms also produce 'non-natural' wastes such as scrap metals, batteries, oils, tyres, rubber, glass, plastic and veterinary waste.

Clinical waste comes from hospitals, nursing homes, health centres veterinary surgeries and similar premises. It requires special treatment to prevent any risk of infection.

Dredging waste is the material dug out from river beds/canals to maintain navigation. River dredgings are usually inert and can often be reprocessed to obtain sand and gravel. Canal dredgings may contain certain heavy metals and other potential contaminants. They are therefore less suitable for re-use.

Hazardous waste has traditionally been used to describe materials such as asbestos, oils, solvents and healthcare wastes. The EU Landfill Directive has recently broadened this definition to include everyday items such as fluorescent tubes, televisions, monitors and scrap cars.

Power station waste is produced from coal-fired power stations and ranges from a fine lightweight fly-ash to a coarse clinker left at the furnace bottom. Plants fitted with equipment to reduce sulphur dioxide emissions also produce a powdery synthetic form of gypsum called desulphogypsum.

Agricultural Waste

2.2 Agricultural waste was previously exempt from planning controls and could generally be burned or buried 'on farm'. However tighter regulations[1] now mean that farm wastes such as plastic, rubber, metal and animal waste have to sent to licensed treatment facilities. Organic matter including manure and slurry can still be re-used on the farm and crop-waste can be composted as long it arises on the farm and is used on the same farm. However this must ensure that there is some agricultural benefit and that same area of land is not over-used

[1] Agricultural Waste Regulations 2006

i.e. repeatedly spreading/spraying the same area where this might alter the proper nutrient balance of the soil. Anything that is brought onto the farm or sent elsewhere for treatment will be treated as waste.

2.3 These new controls will mean that there is likely to be a need for new or expanded facilities able to take farm waste. In many cases it can be taken to a waste transfer station and then for recycling or disposal. However more specialist wastes might require dedicated collection facilities or a site licensed for hazardous waste for example.

2.4 Information on the quantity of agricultural waste produced in Nottinghamshire is limited. Changes in the way it is defined make a year on year comparison impossible but the latest Environment Agency figures for 2003 suggest that 5 million tonnes of agricultural waste is produced in the East Midlands each year[2]. There is no detailed breakdown for Nottinghamshire. The vast majority of this is natural waste such as animal slurry which can generally still be used 'on farm'. As such this raises few if any planning issues. Other wastes such as plastics, metals, tyres and animal health products only total around 30,000 tonnes a year. The overall quantities to be managed are therefore likely to be relatively small but will still need to be managed properly.

2.5 Possible options are a series of central hubs to collect these wastes or a wider spread of very small-scale local facilities. Some farmers have diversified into commercial composting and waste transfer in recent years and there may be a continuation of this trend. The Regional Waste Strategy supports farm diversification and the provision of essential waste management facilities in rural areas. However, this must be balanced against the need to ensure that any development of waste facilities in rural areas should be appropriate to its surroundings in terms of their type, scale and character.

Clinical Waste

2.6 Clinical waste is generally taken to be any healthcare waste that requires special treatment to stabilise it and prevent any risk of infection. The most common sources are hospitals, care homes, doctors and veterinary surgeries, and patients who are treated at home. Clinical waste arisings are very low compared to other types of waste with less than 500 tonnes produced annually in Nottinghamshire[3].

2.7 Virtually all clinical waste has to be incinerated at purpose built clinical incinerators. These used to be located at hospitals, but new emission standards and the lifting of crown immunity from NHS hospital incinerators has resulted in the closure of two of the three hospital

[2] East Midlands Regional Waste Strategy, East Midlands Regional Assembly, January 2006
[3] Environment Agency data for 2004

incinerators. These were located at the Queens Medical Centre in Nottingham and Kings Mill Hospital in Mansfield. The City Hospital in Nottingham still retains its incinerator. The others have now been replaced by a new clinical incinerator within the existing Municipal incinerator site at Eastcroft. The maximum capacity of this facility is roughly 7,000 tonnes per annum which is well in excess of local requirements.

2.8 Nationally, however, there is an overall shortage of clinical incineration capacity. As a result most of the clinical waste currently treated at Eastcroft comes from outside the county. It therefore seems unlikely that Nottinghamshire will need to increase its own clinical waste provision in the foreseeable future.

2.9 There may however be a need for small-scale incineration facilities to treat certain animal wastes. The county has two small sites licensed as pet crematoria and there is also a temporary facility for the cremation of cattle as part of the BSE prevention measures. Future requirements are uncertain but there may be a need for further facilities, particularly for fallen livestock which can no longer be dealt with on-farm without planning permission and Environment Agency approval. Although the process and environmental impacts are similar to that for clinical waste, the smaller size and particular legislative requirements of this type of facility may need to be addressed within the new Waste core Strategy.

Dredging waste

2.10 Nottinghamshire's rivers and canals are regularly dredged to maintain navigation. The main source is the River Trent from which Brititsh Waterways dredges approximately 200,000 tonnes of sand, silt, marl and gravel each year. River dredgings can be spread over the river bank, disposed of in nearby sand and gravel workings or stockpiled for processing as a secondary aggregate. In some cases the material may be re-excavated at a later date in order to re-work it for sand and gravel. Although spreading to the river bank does not normally require planning permission, disposal of river dredgings in sand and gravel workings or processing it as a secondary aggregate will need permission.

2.10 One of the most significant issues for river dredging is the potential conflict with areas of nature conservation value along the riverside. Similarly the re-excavation of old dredging tips which have formed new environments can be harmful to nature conservation interests. This is covered within Chapter 9 of the adopted Minerals Local Plan (December 2005). The main issue for the Waste Core Strategy is the adequacy of disposal capacity.

2.11 With the majority of material being reprocessed for sand and gravel, annual disposal requirements should be relatively low. New recycling capacity has recently been permitted at Colwick, and sites at Gunthorpe and Cromwell should meet expected needs during the life of the Waste Core Strategy. However the general disposal criteria within the strategy will need to be sufficiently flexible to allow for any future increase in demand. This will need to take into account factors such as site location, the need for road transport and the potential to reclaim sand and gravel workings to create new habitats.

2.12 Canal dredgings are more likely to contain heavy metals and chemical traces which makes disposal more difficult. In most cases material will have to be disposed of at hazardous waste sites (see below).

Hazardous Waste

2.13 Hazardous waste originally covered materials that were considered potentially toxic or that were highly reactive with other materials. However, changes in the definition of hazardous waste mean that many more items, such as televisions and computer monitors, are now classed as hazardous. Until recently hazardous waste could be co-disposed of at existing non-hazardous landfill sites subject to extra safeguards and limits on overall quantities. However, new restrictions, introduced under the Landfill Directive[4], mean that all hazardous waste must now be disposed of in separate, specially constructed landfill sites. The only exception is for stable, non-reactive hazardous waste which can be disposed of in separate cells constructed at existing non-hazardous sites.

2.14 Nottinghamshire produced 50,000 tonnes of hazardous waste in 2003[5]. Just over half was of this was landfilled with 12% recycled and 29% subject to some other form of treatment. Only around 1.5% was incinerated. Most of Nottinghamshire's hazardous waste is managed outside of the county as it has no dedicated hazardous waste landfill capacity and the relatively small quantities involved means that it is often only economic to manage such wastes regionally.

2.15 The new restrictions on the disposal of hazardous waste have severely reduced the number of sites nationally. There is now only 1 active hazardous waste landfill site in the East Midlands[6]. This is in Northamptonshire. Two other landfill sites in Leicestershire and Derbyshire are currently licensed by the Environment Agency to take stable, non-reactive hazardous waste in separately constructed cells. As capacity in other areas is used up in other areas, there may be a case for reviewing provision within Nottinghamshire although this will depend on geological suitability amongst other things.

[4] The Landfill Directive (99/31/EC)
[5] Environment Agency on-line 'Hazardous Waste Interrogator' downloaded March 2006
[6] Environment Agency website, October 2006

Power Station Waste

2.16 Coal fired power stations produce two main types of bulk waste – a fine fly-ash known as Pulverised Fuel Ash (PFA) and a more coarse Furnace Bottom Ash (FBA). Some plants have also been fitted with flue-gas desulphurisation (FGD) equipment to reduce Sulphur Dioxide emissions. A by-product of this cleaning process is a fine powdery substance called desulphogypsum.

2.17 PFA is used extensively as a light weight secondary aggregate, in cement and other specialist uses. Depending on production and the level of demand, sales will vary and some ash may have to be landfilled. However, in many cases it can be re-excavated if there is an increase in demand. At some sites the ash is pumped by pipeline and used to reclaim former sand and gravel workings but more commonly it is now disposed of on-site in specially created lagoons. In recent years there has been a greater tendency to landfill material above ground rather than transport if off-site. Although PFA has traditionally been regarded as inert, it does contain elevated levels of the soluble metal Boron which may be harmful to plants.

2.18 FBA has always had a ready market as a secondary aggregate where it is used in making light weight building blocks. Other than temporary stockpiles and dry screening on site, the ash is taken off site for processing. It is generally stable but the presence of metals make it potentially harmful to groundwater in its natural state. All FBA produced in Nottinghamshire is sold for aggregate.

2.19 Desulphogypsum is used as a substitute for natural gypsum especially in plasterboard manufacture. It is sent to manufacturing plants at East Leake and elsewhere in the UK. None is disposed to landfill other than minor quantities that do not meet specification. All three power stations in Nottinghamshire are now fitted, or are being fitted, with FGD plant.

2.20 The main environmental impacts from power station waste are linked to the fine, generally lightweight nature of the ash. This can cause problems where dust is blown over nearby land and properties although this should be controlled by careful site design and good operational management. Measures such as water sprays, and not handling material during windy conditions can prevent off-site problems. There may also be issues arising from traffic generation and the visual impact of any above ground disposal – in common with any other land-raising scheme.

2.21 Power station ash is still one of the largest waste streams in the county although production has more than halved since the late 1980s due to the closure of two smaller stations and reduced power outputs. The three remaining coal fired power stations at Ratcliffe on Trent, Cottam and West Burton produce around 1.7 million tonnes of PFA and FBA each year. The bulk of this is PFA with FBA accounting for around 15%. Annual production of desulphogypsum is currently estimated at

around a quarter million tonnes per annum but this is likely to increase when new plant comes on stream. Disposal of PFA is estimated at more than half a million tonnes per annum.

2.22 There are no forecasts for future trends in production of power station waste. This will depend on the continued operation of all three stations and how much power they generate. The only reasonable assumption that can be made is that waste arisings will probably remain at broadly similar levels providing all three stations remain operational. As all FBA and desulphogypsum is expected to be recycled, these wastes are unlikely to raise any significant issues for the Waste Core Strategy.

2.23 PFA disposal is likely to become more significant as permitted disposal capacity at existing sites begins to run out. The Minerals Local Plan allocates a proposed new sand and gravel quarry at Sturton le Steeple. If permitted this could take PFA from West Burton or Cottam Power Stations if there is a need for extra capacity. However, in the short term there is likely to be increased pressure to tip above ground close to the power stations in order to minimise transport and site development costs. This in turn raises concerns about the possible environmental impacts of land raising which will need to be addressed.

3. Conclusions

3.1 This paper gives a broad overview of a range of very different wastes that raise varying issues for the Waste Core Strategy. Some of these waste are relatively small in volume and may have little significance, others are produced in much greater quantities but are confined to certain parts of the county.

3.2 In each case they are unlikely to affect the overall approach of the Waste Core Strategy but will nevertheless need to be taken into account to ensure that future policies are flexible enough to respond to any change in circumstances.

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published	**October 2006**