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).

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.