CHAPTER 15

Natural Resources

15.0 Introduction

15.1 This chapter deals with the Plan's approach to the use of the District's natural resources. The policies divide into four sections.

- Minerals
- Renewable energy
- Agricultural land
- Water resources and flood risk

15.2 Planning applications will be assessed against the relevant policies as well as other policies in the Plan. There will be a need to cross reference with other Chapters in the Plan, in particular the Natural Environment & Countryside, Housing and Employment Chapters.

Mineral Extraction

Introduction

15.3 Minerals are important national resources providing essential raw materials for building and industrial purposes. Minerals can only be worked where they occur and mining operations, because of their scale, duration and location, often have a greater impact on the environment than other forms of development.

15.4 Sandstone is the principle mineral extracted in the Bradford district, but there are also deposits of fireclay, peat, coal, sand and gravel. Sandstone makes a significant contribution to the regional output of building stone and crushed aggregates, and will continue to be of importance in the future. At present there is only one site where fireclay, coal and sandstone are worked together. There is no commercial extraction of peat or sand and gravel in the District.

15.5 The Council is the Minerals Planning Authority (MPA) for the Bradford district. The MPA must ensure that there is a sufficient and sustainable supply of minerals to meet the demands of the construction industry for the life of the UDP whilst at the same time protecting the environment from damaging development. Government guidance on meeting these objectives is set out in Minerals Policy Guidance notes (MPG), some advice is also provided by Regional Planning Guidance 12 "Regional Planning Guidance for Yorkshire and Humberside" 1996 (RPG12) and the draft RPG12 "Regional Planning Guidance for Yorkshire and Humberside" 1999.

15.6 In pursuing the principles of sustainable mineral development, as defined by Minerals Policy Guidance 1 "General Considerations and the Development Plan System" 1996 (MPG1), the MPA will seek to:

- Conserve resources whilst ensuring that demand is met;
- Minimise the production of quarry or mine waste, and ensure the efficient use of materials including the use of secondary aggregates arising from demolition and similar operations;
- Minimise the environmental effect of quarrying operations and related activities;

- Encourage sensitive working, restoration and aftercare to protect or enhance the environment;
- Protect interests of acknowledged importance, including valuable landscapes, areas of biological or geological importance and water resources.

Safeguarding Resources

15.7 Minerals are a finite resource and care must be taken to safeguard those deposits that are of economic importance from other forms of development that would sterilise deposits or be a serious hindrance to their extraction. The government through MPG1 requires these resources to be safeguarded from unnecessary sterilisation by surface development. Where practicable, and having regard to other policies in this Plan, it may be possible to work minerals before other surface development takes place. Where it is proposed to remove the mineral prior to other development it will be necessary to provide details required by policies NR3 and NR4.

Policy NR1

APPLICATIONS FOR PLANNING PERMISSION FOR SURFACE DEVELOPMENT SHOULD SAFEGUARD MINERAL RESOURCES, OR MAKE PROVISION FOR ENSURING THAT THE MINERAL IS EXTRACTED SO FAR AS IS PRACTICABLE PRIOR TO THE COMMENCEMENT OF THE SURFACE DEVELOPMENT.

Mineral Extraction

15.8 Mineral extraction will continue in the district and the MPA will seek to ensure that the demand for newly won minerals is met with the minimum impact upon the environment.

15.9 Most existing quarries are located within the attractive rural areas of the countryside. New mineral workings in these areas are likely to have a significant adverse impact upon the surrounding countryside. The cumulative impact on the wider landscape also has the potential to be considerable. For these reasons, it is preferable to confine workings to extensions of existing sites wherever possible, rather than permit new operations. However, there may be cases when it would cause less environmental harm to open a new site rather than extend an existing site.

15.10 “Urban” quarries also have a significant impact on the amenity of local residents and the wider landscape. Due to the constraints relating to the proximity of large numbers of residential properties it may not be preferable for these sites to be extended. It is important that these sites do not encroach upon the adjoining land uses.

15.11 For mineral activity relating to sandstone blocks and other minerals the MPA will seek to develop extensions to existing sites before new sites.

(1) The MPA will look at the provision of aggregate minerals in the following order:
(2) The current recycling provision of aggregate material
(3) Extensions to existing active quarries that lie within the Area of Search
(4) Extensions to existing active quarries that lie outside of the Area of Search
(5) New sites whether inside or outside of the Area of Search.

Policy NR2

PROPOSALS FOR NEW MINERAL WORKINGS WILL BE PERMITTED PROVIDED THAT IT IS NOT REASONABLY PRACTICABLE FOR PHYSICAL, ECONOMIC OR ENVIRONMENTAL REASONS TO EXTEND EXISTING WORKINGS OR IN THE CASE OF AGGREGATES FOR THE MATERIAL TO BE PRODUCED THROUGH RECYCLING.

15.12 In considering planning applications for the winning and working of all minerals, the MPA will examine the contribution made by existing workings in meeting present and future demand for the mineral(s), having regard to existing planning permissions and reserves available. In the case of aggregates, the MPA will examine the contribution and alternative sources of aggregate, namely recycled material.

15.13 Quarrying activities can have a significant impact on adjoining land users and the wider environment by way of visual amenity, noise, dust, air ground or water pollution. It is imperative that such development operates with minimum adverse impact. The MPA will require proposals to include a full assessment of the environmental impact of the scheme. MPG2, MPG 11 “The Control of Noise at Surface Mineral Workings” 1993 and the consultation paper MPG11 “Controlling and Mitigating the Environmental Effects of Mineral Extraction in England” provide advice and guidance on assessing the impact of quarrying activity and reducing the adverse effects.

15.14 Consideration will also be given to the potential highway issues regarding safe access. The transportation of minerals once they have been extracted can also have a significant impact on the environment. The MPA will support the use of alternatives to road haulage wherever possible.

15.15 The impact on ecology, archaeology and geology can be substantial due to the nature of the quarrying development. The MPA will therefore seek to protect important areas of ecology, archaeology and geology from mineral development. However, it may be possible to provide replacements or additions to important features as part of a quarrying proposal. The final restoration scheme for the quarry should also have regard to the potential ecology, archaeology and geology interests as well alternative restoration schemes.

15.16 Quarrying activity can have a significant impact on the wider landscape both in the long and short term. When considering a proposal for either a new site or extension to an existing one it will be necessary to assess the landscape impact of the extension area both in relation to the immediate vicinity and the cumulative impact of the wider landscape.

15.17 Depending on the scale and nature of the development it may be necessary to submit an Environmental Impact Assessment in accordance with the Town and Country Planning (Environmental Impact Assessment) of Regulations 1999.

Policy NR 3

PROPOSALS FOR EXTENSIONS TO EXISTING MINERAL WORKINGS OR NEW WORKINGS (INCLUDING THE WINNING OF MATERIALS FROM RAILWAY EMBANKMENTS) WILL BE PERMITTED PROVIDED THAT ALL OF THE FOLLOWING CRITERIA HAVE BEEN SATISFIED:

(1) THERE IS EVIDENCE OF A VIABLE DEPOSIT OF THE MINERAL IN TERMS OF QUALITY AND QUANTITY;
(2) THE PROPOSAL WOULD NOT GIVE RISE TO UNACCEPTABLE ADVERSE IMPACTS ON PEOPLE AND THE ENVIRONMENT IN TERMS OF VISUAL AMENITY, NOISE, DUST, AIR GROUND OR WATER POLLUTION, OR OTHER NUISANCE ;
(3) THE SITE WOULD BE SAFELY ACCESSIBLE FROM THE PRIMARY ROAD NETWORK AND WHEREVER POSSIBLE CLOSE TO ALTERNATIVE MODES OF TRANSPORT;
(4) THE PROPOSAL DOES NOT RESULT IN THE LOSS OF IMPORTANT ECOLOGICAL, ARCHAEOLOGICAL, LANDSCAPE OR GEOLOGICAL FEATURES;

Operational Considerations

15.18 The MPA will expect mineral extraction sites to operate to the highest standards and with the minimum impact on the environment, sensitive land uses and highway safety. In accordance with advice in MPG1 and MPG2 “Applications, Permissions and Conditions” 1992 the MPA will expect proposals to be supported by full details of the operation, proposed infrastructure, methods of working and restoration. Advice on restoration and aftercare can be found in Minerals Policy Guidance note 7 “ The Reclamation of Mineral Workings” 1996 (MPG7).

Policy NR4

PROPOSALS FOR MINERAL WORKING THAT ARE ACCEPTABLE IN TERMS OF POLICY NR3 ABOVE WILL BE PERMITTED PROVIDED THAT THE FOLLOWING MATTERS HAVE BEEN ADDRESSED TO ENSURE THAT THE DEVELOPMENT OF THE SITE IS CARRIED OUT IN A SATISFACTORY MANNER:

(1) A DETAILED TIMESCALE FOR ALL OPERATIONS
(2) THE PROVISION OF APPROPRIATE SCREENING BOTH IN ADVANCE OF WORKING AND DURING THE OPERATIONS THEMSELVES

(3) A DETAILED, AND PHASED, SCHEME OF WORKING AND LANDSCAPING
(4) THE RETENTION, MAINTENANCE OR REPLACEMENT OF ALL BOUNDARY FEATURES
(5) MEASURES TO ENSURE THE STABILITY OF SURROUNDING LAND
(6) MEASURES TO PRESERVE, REPLACE OR DIVERT EXISTING SITE FEATURES AND SERVICES;
(7) MEASURES TO PRESERVE, ENHANCE OR PROTECT NATURE CONSERVATION INTERESTS;
(8) THE PROTECTION OF GROUNDWATER, WATERCOURSES, LAKES, PONDS OR OTHER WATER BODIES, AND THE PROVISION OF ADEQUATE DRAINAGE
(9) SATISFACTORY ACCESS, INCLUDING MEASURES TO PROTECT THE ENVIRONMENT FROM THE EFFECTS OF VEHICLES ENTERING OR LEAVING THE SITE
(10) LOCATION OF ANCILLARY FACILITIES INCLUDING OFFICES, WEIGHBRIDGE, STORES etc.
(11) PROTECTION OR APPROPRIATE DIVERSION AND REINSTATEMENT OF ALL AFFECTED PUBLIC OR PRIVATE RIGHTS OF WAY OR ACCESS
(12) HOURS OF WORKING
(13) MEASURES TO MINIMISE THE ENVIRONMENTAL IMPACT OF NOISE DUST OR VIBRATION
(14) THE MAKING OF SATISFACTORY PROVISION FOR THE DISPOSAL OR RE-USE OF WASTE MINERALS ARISING FROM THE OPERATIONS
(15) A PROGRESSIVE AND PHASED SCHEME OF RESTORATION TO AN AGREED AFTERUSE
(16) THE PROVISION OF A DETAILED SCHEME OF AFTERCARE AND MANAGEMENT

Conditions on Old Minerals Working Permissions

15.19 In the past, some mineral workings have been granted permission subject to conditions which do not meet current environmental standards. The MPA will seek to improve the standards of operation and restoration of these old permissions through voluntary agreements or enforcement action if appropriate.

15.20 The need to extend the working area of old permissions may sometimes give rise to an opportunity to upgrade planning conditions for the entire site, so that they are consistent with current minerals planning practice. The MPA recognises the possible environmental advantages that these consolidating applications can afford.

15.21 The MPA will consider that desirability, after having all regard to all material considerations, of using formal orders to achieve environmental improvements at mineral working sites.

Aggregate Area of Search

15.22 In line with MPG1 and MPG 6 "Guidelines for Aggregate Provision in England" 1996, strategic guidance of new minerals developments will be provided through the adoption of an Area of Search approach, which examines a broad area within which aggregate mineral extraction might be permitted. Government guidance only requires Areas of Search for aggregate materials although it is acknowledged that this may overlap with blockstone reserves.

15.23 The approach takes into account geological information including sandstone, sand and gravel resources. The purpose of the Area of Search is assistance the industry and public in identifying where the mineral resources and main planning constraints are thereby providing an indication as to where new mineral working may be located. There is not a presumption that planning permission will be granted within the Area of Search.

15.24 The geological information was overlain with three criteria to ensure that the main constraints on the working of the reserves were taken into account. The following criteria were:

- 250 metre from Special Protection Area, Site of Special Scientific Interest (SSSI), Area of Outstanding Natural Beauty (AONB) and National Park.
- 250 metre buffer zone from urban areas.
- within 500 metre of primary road network.

Policy NR5

MINERALS EXTRACTION WITHIN AN AREA OF SEARCH WILL BE PERMITTED PROVIDED THAT ANY SUCH PROPOSALS ACCORD WITH OTHER POLICIES OF THIS PLAN

Aggregate Landbank

15.25 In accordance with national guidance set out in MPG 6, the MPA will continue to maintain a landbank of permitted reserves for aggregates for 7 years. This will ensure that Bradford maintains its contribution to the sub-regional apportionment outlined by the Yorkshire and Humberside Regional Aggregates Working Party annual report in accordance with guidance contained within MPG6 and RPG12. IT is likely that Bradford's contribution to the West Yorkshire sub-regional apportionment will continue to be through crushed rock, although sand and gravel may be exploited.

Policy NR6

PROPOSALS FOR MINERALS EXTRACTION FOR AGGREGATES PRODUCTION WILL BE CONSIDERED AGAINST THE AIM OF MAINTAINING A LANDBANK OF PERMITTED RESERVES OF AGGREGATES IN WEST YORKSHIRE, SUFFICIENT TO ENSURE A SUPPLY OF AT LEAST 7 YEARS EXTRACTION

Aggregate Produced From Recycled Material

15.26 A considerable volume of inert waste material arises within the district each year, of which a substantial proportion comprises of demolition wastes including concrete, brick and stone. These materials have historically been disposed of to landfill or used in related activities but could have been recycled thereby reducing the demand for newly won material. Government advice in the form of MPG6, and Waste Strategy 2000 encourages recycling to produce aggregate.

15.27 The MPA will encourage proposals that involve the recycling of demolition wastes in employment areas provided that such facilities are appropriately sited. In particular sites care will be needed to ensure that the siting of these facilities should not compromise adjoining sensitive land uses. It will be necessary to ensure that these facilities are appropriately sited in relation to neighbouring housing, schools and sensitive industrial uses such as food processing.

15.28 Operational quarry sites, where they are suitably located, may be considered appropriate locations for secondary aggregate production since normally they will already contain the plant and equipment required for processing the material. However, quarries are often have a significant impact on landscape and green belt and therefore these sites will only be acceptable when the recycling activity would not prevent restoration from taking place in line with the agreed scheme.

15.29 As with other forms of recycling, aggregate recycling schemes will need to prove BPEO for the waste stream. Consideration of the proximity principle will be particular important especially when considering quarry locations. However, there may be the opportunity for road haulage vehicles to deliver demolition and similar wastes to the quarry on return journeys, thus reducing overall movements in the interests of the environment and road safety.

15.30 The MPA will expect all such facilities to provide full details on the potential impacts of the development. Applications for facilities to be located in employment areas will be considered against Waste Policy P12, whilst those in quarry locations will be assessed against Natural Resource Policy NR4.

Policy NR7

THE COUNCIL WILL SEEK TO MAXIMISE THE USE OF WASTE MATERIALS AS A SOURCE OF AGGREGATE, WHEREVER APPROPRIATE, IN PLACE OF NEWLY WON MINERALS.

Policy NR8

PROPOSALS FOR THE PRODUCTION OF AGGREGATES FROM WASTE MATERIALS BE PERMITTED PROVIDED THAT:

(1) THE PROPOSAL IS APPROPRIATELY SITED WITHIN AN EMPLOYMENT SITE, OR EXISTING ACTIVE QUARRY WHERE ITS RESTORATION WOULD NOT BE COMPROMISED OR DELAYED;
(2) THERE IS EVIDENCE THAT THE PROPOSALS TAKE PROPER ACCOUNT OF THE 'PROXIMITY PRINCIPLE' AND ARE SITED SO AS TO MINIMISE THE NEED FOR LENGTHY HAULAGE OF MATERIALS;

(3) THE PROPOSAL WOULD NOT GIVE RISE TO UNACCEPTABLE ADVERSE IMPACTS ON PEOPLE AND THE ENVIRONMENT IN TERMS OF VISUAL AMENITY, NOISE, DUST, AIR GROUND OR WATER POLLUTION, OR OTHER NUISANCE ;

(4) THE SITE WOULD BE SAFELY ACCESSIBLE FROM THE PRIMARY ROAD NETWORK AND WHEREVER POSSIBLE CLOSE TO ALTERNATIVE MODES OF TRANSPORT;

(5) WHERE THE PROPOSAL IS IN AN EMPLOYMENT SITE IT MUST INCLUDE MEASURES TO ENSURE THAT THE REQUIREMENTS OF POLICY P12 ARE MET;

(6) WHERE THE PROPOSAL IS IN AN EXISTING ACTIVE QUARRY IT MUST INCLUDE MEASURES TO ENSURE THAT THE REQUIREMENTS OF POLICY NR4 ARE MET.

Oil and Natural Gas Exploration

15.31 Governmental policy as set out in Circular 2/85 and MPG1 is to encourage exploration for, and production of, the country's own oil and gas reserves. Such developments will be supported except where they would likely lead to significant adverse effects upon the environment for example sites of acknowledged importance such as Special Protection Areas and Sites of Special Scientific Interest.

15.32 Permanent oil and gas extraction sites will need to satisfy Natural Resource Policies NR3 and NR4 and all other policies of this plan.

Policy NR9

APPLICATIONS FOR PLANNING PERMISSION FOR THE EXPLORATION OF LAND TO DETERMINE THE PRESENCE OR EXTENT OF OIL OR NATURAL GAS RESERVES WILL BE PERMITTED PROVIDED THE PROPOSAL MEETS THE CRITERIA SET OUT IN POLICY NR4.

Peat Extraction

15.33 Peat forms the basis of the distinctive appearance and character of the South Pennines uplands and provides a wetland habitat for a range of wildlife species. In accordance with Mineral Policy Guidance 13 "Guidelines for Peat Provision in England including the Place of Alternative Materials" 1995 (MPG13), the MPA will seek to control the commercial extraction of peat in the Pennine uplands in the interests of landscape protection and nature conservation. The majority of the South Pennines uplands are covered by Special Protection Area status, which is currently being considered for Special Conservation Area status. Any development in this area will be assessed against Natural Resources Policies NR3 and NR4 as well as the other policies of this Plan.

Policy NR10

PROPOSALS FOR THE COMMERCIAL EXTRACTION OF PEAT WILL NOT BE PERMITTED WHERE THE DEVELOPMENT WOULD ADVERSELY AFFECT THE LANDSCAPE CHARACTER AND ECOLOGY OF THE PENNINE UPLANDS, ESPECIALLY IN AREAS DESIGNATED FOR THEIR NATURE CONSERVATION IMPORTANCE, EXCEPT WHERE THE AREA HAS BEEN SIGNIFICANTLY DISTURBED BY PAST HUMAN ACTIVITY.

Coal Extraction

15.34 Coal has been worked in the Bradford district in the past through underground mining as a result only limited reserves remain. Whilst there is currently no pressure for extensive coal extraction operations, the MPA will nevertheless seek to ensure that any such proposals are subject to appropriate controls. Government advice on open cast coal extraction is contained within Mineral Policy Guidance 3 “Coal Mining and Colliery Spoil Disposal” 1999 (MPG3).

15.35 The impact of coal extraction is significant and, therefore, the MPA will expect such schemes to provide the highest possible standard of operation and restoration. It will be imperative that such schemes take full consideration of the impact on local communities and provide alternative transport wherever possible.

Policy NR11

PROPOSALS FOR THE EXTRACTION OF COAL WILL BE PERMITTED PROVIDED THAT THE FOLLOWING CRITERIA ARE SATISFIED:

(1) THERE IS EVIDENCE OF A VIABLE DEPOSIT OF COAL IN TERMS OF QUALITY AND QUANTITY
(2) THE PROPOSAL WOULD NOT GIVE RISE TO UNACCEPTABLE ADVERSE IMPACTS ON PEOPLE AND THE ENVIRONMENT IN TERMS OF VISUAL AMENITY, NOISE, DUST, AIR GROUND OR WATER POLLUTION, OR OTHER NUISANCE ;
(3) THE SITE WOULD BE SAFELY ACCESSIBLE FROM THE PRIMARY ROAD NETWORK AND WHEREVER POSSIBLE CLOSE TO ALTERNATIVE MODES OF TRANSPORT;
(4) THE PROPOSAL WOULD NOT RESULT IN THE LOSS OF IMPORTANT ECOLOGICAL, ARCHAEOLOGICAL, LANDSCAPE OR GEOLOGICAL FEATURES;
(5) THE CUMULATIVE IMPACT ON COMMUNITIES IN THE LOCALITY OF THE PROPOSAL HAS BEEN FULLY INVESTIGATED;
(6) THE PROPOSAL INCLUDES SIGNIFICANT COMMUNITY BENEFITS;
(7) THE PROPOSAL MEETS THE REQUIREMENTS OF NR4.

Renewable Energy

15.36 Climate change is one of the biggest environmental challenges facing the world, with the potential for disruption to human society, health and the natural environment. Carbon dioxide produced by burning fossil fuels to generate electricity is the biggest single source of green house gas emissions, which are responsible for the problem. Renewable electricity generation technologies which, produce no or result in lower greenhouse gas emissions, can make an important contribution to meeting requirements for future greenhouse gas reduction commitments.

15.37 Government policy on renewable energy is set out in 'New and renewable energy – Prospects for the 21st century' (Feb 20000) which establishes a national target to achieve 10% of the UK's electricity needs from renewable energy resources by 2010. The Planning System is given an important role in helping to deliver this target, through a positive approach to planning for potential renewable energy sources within their locality.

15.38 Locally the Council supports the exploitation of renewable energy in addressing climate change, and has included a commitment to promote them in Bradford's '2020 Vision'

15.39 The main renewable energy resources include:

- Solar
- Biomass
- Hydro
- Wind
- Landfill gas
- Municipal and industrial waste

15.40 The 'Lancashire and Yorkshire Renewable energy Planning Study', (ETSU,1997), examined the potential of various renewable technologies across the region. It identified a wide variety of potential resources across the Region. Within West Yorkshire the biggest resource was solar, reflecting the urbanised nature of the area, followed by waste, biomass and wind. It also identified a modest hydro resource in the form of small-scale projects, which could make use of existing weirs, mills or leat features. A 'Regional Renewable Energy Assessment' is currently being undertaken which will update this information.

15.41 Within Bradford, with its hilly topography, the main pressure has been for energy generation from the wind. However, in order to contribute to meeting the Governments target it is important to encourage the opportunities across all potential renewables. Within Bradford the following sources may be possible: waste incineration, waste digestion and landfill gas, small-scale hydro, and solar energy.

15.42 Government guidance on renewable energy is set out in Planning Policy Guidance note 22. This emphasises the importance of balancing the need for the generation of energy from renewable sources with the impact of a proposed development on the local environment. Therefore:

Policy NR12

DEVELOPMENT PROPOSALS FOR THE GENERATION OF POWER FROM RENEWABLE ENERGY SOURCES WILL BE ENCOURAGED. PROPOSALS WILL BE PERMITTED PROVIDED THAT THERE IS NO SIGNIFICANT CONFLICT WITH OTHER RELEVANT POLICIES IN THE PLAN, AND THERE IS NO ADVERSE ENVIRONMENTAL IMPACT TO NEARBY COMMUNITIES. WHERE A PROPOSAL FAILS TO MEET THESE REQUIREMENTS, THE BENEFITS OF THE FOLLOWING WILL BE TAKEN INTO CONSIDERATION:

(1) THE POTENTIAL CONTRIBUTION TO MEETING LOCAL, REGIONAL AND NATIONAL ENERGY NEEDS AND REDUCING GLOBAL POLLUTION:
(2) THE EXTENT TO WHICH THE DEVELOPMENT WOULD PROVIDE RESEARCH BENEFITS WHICH WOULD ASSIST THE FURTHER DEVELOPMENT OF RENEWABLE TECHNOLOGIES.

IN DOING SO IT WILL BE ACKNOWLEDGED THAT CERTAIN RENEWABLE ENERGY SOURCES CAN ONLY BE HARNESSED WHERE THE RESOURCE OCCURS.

15.43 Particular consideration should be given to the impact of renewable energy proposals on water resources, built environment, archaeology, agriculture, nature conservation, visual intrusion (including immediate and wider impact on the landscape) and noise, covered under other policies in the Plan. Policy NR13 below provides the detailed considerations against which all wind turbine developments will be determined.

Wind Turbine Developments

15.44 One of the major assets of the District is its attractive countryside, much of which consists of hilly or upland areas. The nature and requirements of wind turbine developments means that development pressure is likely to be focused on these areas of the District. It is important therefore that the impact of development proposals on the character of the landscape is carefully assessed and balanced with the contribution that the development would make to meeting energy needs. Some parts of the upland moorland areas are particularly unspoilt or are of historic importance because of their archaeology or other historic connections. Proposals in these areas will need to take these factors into account.

15.45 It is therefore preferable for turbines to be located away from the more environmentally sensitive areas of the District, for example in landscape already adversely affected by the activities of man and the intrusion of man-made structures.

Policy NR13

PROPOSALS FOR THE DEVELOPMENT OF WIND FARMS AND INDIVIDUAL WIND TURBINES WILL NORMALLY BE PERMITTED PROVIDED THAT:

(1) THE DEVELOPMENT WILL NOT ADVERSELY AFFECT:

(a) THE CHARACTER OF THE LANDSCAPE;

(b) UPLAND OR MOORLAND AREAS WHICH CURRENTLY HAVE NO OR LITTLE DEVELOPMENT OR CONTAIN AREAS OF HISTORICAL INTEREST;

(2) SPECIAL ATTENTION IS PAID TO THE RELATIONSHIP OF PROPOSALS TO OTHER WIND FARMS/TURBINES IN THE AREA TO PREVENT OVER DEVELOPMENT;

(3) THE DEVELOPMENT IS LOCATED SUFFICIENTLY FAR AWAY FROM DWELLINGS TO ENSURE THAT THERE ARE NO UNACCEPTABLE NOISE PROBLEMS FOR LOCAL RESIDENTS;

(4) THE SITING, DESIGN, MATERIALS AND COLOUR OF THE TURBINES AND ANCILLARY STRUCTURES ARE SUCH THAT THEIR VISUAL IMPACT IS MINIMISED;

(5) THE DEVELOPER UNDERTAKES THE REMOVAL OF STRUCTURES AND FULL RESTORATION OF THE SITE TO THE SATISFACTION OF THE COUNCIL, SHOULD ALL OR PART OF THE SITE BECOME NON-OPERATIONAL FOR MORE THAN SIX MONTHS.

15.46 Under the Town and Country Planning (Environmental Impact Assessment) Regulations 1999 a full environmental assessment will be required for certain wind turbine development proposals. However it is essential that all other proposals for wind turbine developments are also accompanied by sufficient information to enable the impact of the development on the environment to be fully assessed. In particular, developers should provide a detailed landscape assessment of their proposals, a preliminary noise impact assessment, and an accurate projection of the energy output of the proposed development. In cases where, after evaluating this information, the Council consider that the noise impact of the proposal might be unacceptable, the developer will be asked to provide a fully detailed noise impact assessment.

15.47 Further guidance on the issues that should be considered, and on the type of information required of developers, to fully assess the environmental effects of wind turbine proposals is set down in both the Government's Planning Policy Guidance note 22 and the Council's adopted Supplementary Planning Guidance on Wind Turbine Developments. Developers should have regard to this guidance.

Agricultural Land

15.48 The increasing efficiency of agriculture and changes in agricultural policy mean that retaining as much land as possible in agricultural use no longer has the same priority. Government guidance, as set out in Planning Policy Guidance note 7 'The Countryside – Environmental Quality and Economic and Social Development' states that, rural areas can accommodate many forms of development without detriment, if the location and design of development is handled with sensitivity. In deciding a planning application it is necessary to weigh up factors such as the protection of landscape resource, wildlife habitats and other non renewable resources, and encouragement of rural enterprise, as well as the quality and versatility of agricultural land. Within Bradford the majority of the rural area, including agricultural land, is also designated as Green Belt, so policies GB1-6 will need to be taken into account. Government advice regarding the protection of agricultural land in relation to mineral workings is found in Minerals Planning Guidance notes. This advice will be taken into account alongside Policy NR15 in assessing minerals proposals.

15.49 Planning protection of agricultural land is focused on the "best and most versatile land" (Ministry of Agriculture, Fisheries and Food Agricultural Land Classification Grades 1, 2 and 3a), which is a national resource for the future. Government advice in PPG7 states that greenfield land, including the best and most versatile agricultural land should not be permitted unless opportunities have been assessed for accommodating development on previously developed sires and on land within the existing built up areas. Where development of agricultural land is avoidable, areas of poorer quality land should be used in preference to high quality land, except where other sustainability consideration suggest otherwise, for example the quality of the landscape or importance for biodiversity.

15.50 There is relatively little of this higher quality agricultural land in the District, though some limited areas do exist on lower valley slopes and in the main river valleys. To ensure that this is adequately safeguarded:

Policy NR14

DEVELOPMENT WHICH RESULTS IN THE LOSS OF THE BEST AND MOST VERSATILE AGRICULTURAL LAND WILL NOT NORMALLY BE PERMITTED. WHERE LAND OF A LOWER GRADE COULD BE DEVELOPED FOR THE PARTICULAR PURPOSE.

15.51 In accordance with Government Guidance, account will be taken of the loss of land of moderate or poor quality only in exceptional circumstances such as in hill and upland areas where agricultural practices themselves contribute to the quality of the landscape or to the local economy in some way.

15.52 When assessing proposals the potential adverse impact of severance and fragmentation will be taken account of.

The Water Environment

15.53 The quality of the water environment is a major concern of the Council and within the planning powers available it will seek to protect and where possible improve the quality of the District's rivers, streams, groundwater, lakes and ponds etc. Development has the potential to cause major water pollution problems. However through the development control process, and with close liaison with bodies such as the Environment Agency such pollution problems can be avoided. Therefore to safeguard against such water pollution problems in particular and to protect the water environment the Plan incorporates a number of policies, or criteria within policies, which:

- ensures that new development is within, or ensures adequate provision of, infrastructure such as surface water drainage, sewerage, and sewage treatment facilities (eg Policy UR2).

- ensures that proposals, in particular for mineral exploitation and waste disposal, do not pollute groundwater, watercourses or other water bodies (eg Policies NR3, NR4 and policies P8 to P15).

- recognise and safeguard the nature conservation value of watercourses and other water bodies (eg policies NE10 and NE13).

15.54 The following policies cover more detailed considerations relating to the water environment, including:

- Flood risk
- Flood plain protection
- Sustainable urban drainage
- Groundwater protection

Flood Risk

15.55 Two main rivers, the Aire and the Wharfe, as well as many other smaller watercourses fall within the Bradford District. Current uncertainties over possible climate change make the need to safeguard floodplain areas particularly important. The Government's policy, as currently set out in draft revised Planning Policy Guidance Note 25 'Planning and flood risk' is to reduce as far as practicable, the risk to people and the developed and natural environment from flooding. Planning has a positive role to play in achieving these aims, by ensuring that flood risk is properly taken into account in the planning of developments and that measures are taken to reduce the risk of flooding.

15.56 In accordance with this approach, the Council's policies on flood risk seek to:

- Guide development away from areas at risk from flooding;

- Ensure new development does not lead to additional flood risks;

- Retain and where practicable restore natural flood plain areas.

Policy NR15

DEVELOPMENT WILL NOT BE PERMITTED IN AREAS AT FLOOD RISK INCLUDING AREAS DEFINED AS WASHLANDS ON THE PROPOSALS MAP, WHERE IT WOULD, EITHER ALONE, OR IN CONJUNCTION WITH OTHER DEVELOPMENTS, BE LIKELY TO:

(1) INCREASE THE RISKS OF FLOODING

- **BY REDUCING THE STORAGE CAPACITY OF, OR INCREASING FLOWS; OR**
- **BY IMPEDING THE FLOW OF FLOODWATER; OR**
- **THROUGH THE DISCHARGE OF ADDITIONAL SURFACE WATER; OR**
- **BY UNDERMINING THE INTEGRITY OF EXISTING FLOOD DEFENCES;**

(2) BE AT RISK ITSELF FROM FLOODING AND

(3) IMPEDE ACCESS TO WATERCOURSES FOR MAINTENANCE

UNLESS ADEQUATE PROTECTION OR MITIGATION MEASURES ARE UNDERTAKEN AS PART OF THE PROPOSED DEVELOPMENT.

DEVELOPMENT THAT WOULD RESULT IN RESTORATION AND/OR ENHANCEMENT OF THE FLOODPLAIN OR CONTRIBUTE TO A REDUCTION IN SURFACE WATER RUN-OFF WILL BE ENCOURAGED.

DEVELOPMENTS WILL BE ENCOURAGED TO INCORPORATE SOURCE CONTROL TECHNIQUES AND SUSTAINABLE URBAN DRAINAGE SYSTEMS WHERE APPROPRIATE.

15.57 New development should not be at risk from flooding. The Environment Agency identifies the broad areas at risk from flooding through it's Indicative Flood Plain maps, which are regularly updated and refined. Plan Xx shows the broad extent of the areas at risk from flooding within the District, based upon the most recent 2000 Indicative Flood Plain maps. For more detailed and up to date information developers are advised to contact the Environment Agency.

15.58 Within the flood plains are areas of land which provide essential storage for floodwater. These areas called 'washlands' are designated by the Environment Agency and are the flood risk areas, which require the very highest level of protection. If a river is deprived of its washland, for example by development which raises the height of the land or creates a barrier to floodwater, then this can lead to more serious flooding problems elsewhere. Compensatory washland does not always have the same influences as that which it seeks to replace and in such circumstances is unlikely to be acceptable as a form of mitigation.

15.59 The Council will support opportunities to restore the floodplain, which has been historically developed and damaged, in terms of its floodplain capacity function.

15.60 Developers are encouraged to use where practicable, sustainable drainage systems to control the water near its source (See policy NR16 below), in order to avoid adding to flood risk elsewhere.

15.61 The Environment Agency will be consulted in evaluating the nature of any flood risk and any works proposed to contain that risk.

Sustainable Drainage

15.62 The disposal of surface water is an important consideration in determining land – use planning proposals. Most development reduces surface permeability by replacing vegetated ground with roofs and tarmac or paved areas. This decreases the amount of water soaking into the ground, as well as increasing run – off. Traditional drainage systems are designed to carry water as quickly as possible, therefore altering the natural flow patterns (increasing both total quantity and peak flows of run-off) which can lead to problems elsewhere in the river catchment, particularly the risk of flooding downstream. Increased flow rates can also cause erosion and damage water and water side habitats. Water quality may also be affected as a result of pollutants from built up areas being washed into watercourses or groundwater.

15.63 The protection of rivers and groundwater requires changes to the design of drainage systems from traditional piped systems to those, which mimic natural drainage processes. Flood risk and other environmental damage can be managed by minimising changes in the volume and rate of surface run-off from development sites through the use of sustainable drainage systems, which control surface water run-off as close to origin as possible. Therefore:

Policy NR16

DEVELOPMENT PROPOSALS, WILL BE EXPECTED TO BE DESIGNED SO AS NOT TO ADD TO THE RISK OF FLOODING OR OTHER ENVIRONMENTAL DAMAGE, AS A RESULT OF SURFACE WATER RUN-OFF. THEREFORE DEVELOPMENT PROPOSALS WILL BE REQUIRED TO INCORPORATE SUSTAINABLE DRAINAGE SYSTEMS, WHICH CONTROL SURFACE WATER RUN-OFF, AS CLOSE TO SOURCE AS POSSIBLE, WHEREVER PRACTICABLE. WHERE DEVELOPMENT IS PROPOSED ON GREEN FIELD SITES OF ONE HECTARE OR GREATER, DEVELOPERS WILL BE EXPECTED TO DEMONSTRATE THAT SUSTAINABLE DRAINAGE METHODS HAVE BEEN CONSIDERED AND WHERE APPROPRIATE INCORPORATED INTO THE PROPOSALS, BEFORE PLANNING PERMISSION IS GRANTED.

15.64 There are a wide range of sustainable drainage options available, in preference to or linked to traditional systems, including:

- Preventative or source control measures – reduce the quantity of runoff from the site eg rainwater recycling and grey water schemes;

- Permeable conveyance systems – Slow the velocity of runoff to allow settlement filtering and infiltration eg Permeable and Porous pavements

- Passive treatment systems – Provide passive treatment such as filter strips and detention ponds, to collect surface water before discharge into land or to a watercourse.

15.65 Surface water management using sustainable drainage systems can be implemented at varying levels, dependant on the nature and scale of development. It could involve one or a combination of the above, from good house keeping measure and soakaways for individual premises through to the use of infiltration devises, tank storage or small basins for larger sites. The appropriate system will depend on the type of development and its location. While there are clear benefits arising from the use of sustainable drainage systems, there are also constraints as to the choice of system. The surface structures that may be needed can take more space than conventional systems, however these may be integrated into the surrounding land use eg public open space on the development site. Limitations to the use of infiltration may occur where ground conditions are inappropriate eg soil is not very permeable, water table is shallow or the quality of groundwater may be adversely affected.

15.66 It is important for the successful implementation of any sustainable drainage system that care is given at the conception and detailed stages of its design. Consideration of the following issues early in the planning and design stages are essential:

- Integration of sustainable drainage systems into the overall site concept and layout;
- Agreements on or controls over adoption, maintenance and operation of the systems; and
- The need for monitoring long-term performance.

15.67 It is particularly important for residential developments that these issues are fully considered, so that problems are not created for future residents, by the use of non conventional sustainable drainage systems. This will involve close consultation with the Environment Agency and Sewerage undertakers.

Ground Water Protection

15.68 The Bradford area is underlain by Minor Aquifers, including Coal measures, Millstone Grit and drift. Licensed abstractions of water for industrial, agricultural and domestic supply are widespread and there are hundreds of private supplies, particularly in rural areas. The Districts groundwater resource needs to be protected in order to maintain future water supplies from aquifers. It is also important to protect it for its environmental significance, for example they feed surface water through springs and base flows to rivers which support wetlands and their ecosystems. Therefore:

Policy NR17

THE COUNCIL WILL OPPOSE DEVELOPMENT WHICH IS LIKELY TO LEAD TO AN ADVERSE IMPACT ON GROUNDWATER RESOURCES IN TERMS OF THEIR QUANTITY, QUALITY AND THE ECOLOGICAL FEATURES THEY SUPPORT.

15.69 Development can pose particular risks to groundwater resources by way of pollution or disturbance to flow or depletion of their supply. In some cases it may however be possible to demonstrate adequate mitigation of such risks. Wherever groundwater is vulnerable to land use activities the site specific considerations of both the geology and the proposed operational controls must be considered at an early stage to ensure adequate protection.

15.70 Developers should consult the Groundwater Vulnerability Maps produced by the Environment Agency, which show the major, minor and non-aquifer areas, as well as the Source Protection maps which show the different aquifer types and how hey relate to the distribution of Source Protection Zones (SPZs) where more stringent requirements apply to specific sources of supply. There are currently no Groundwater Source Protection Zones in Bradford, however the Agency are currently developing SPZs for the Yorkshire Water abstractions in Oxenhope, Eldwick, Steeton and Ilkley Moor. Where potential risks to groundwater exist from development, especially in the vicinity of water supply abstractions the Environment Agency should be consulted at an early stage.