FIFEplan

PEOPLE | ECONOMY | PLACE

Minerals

Supplementary Guidance

2018

Fife Council
Economy, Planning & Employability Services

Contents

Preface: Using the Planning Policy document

This document should be read together with FIFEplan, the Local Development Plan for Fife. FIFEplan contains policies relevant to mineral extraction and other land use factors, and this complementary document provides more detailed supporting information and advice on a range of minerals matters.

Together with the Local Development Plan, this approved Minerals Supplementary Guidance supersedes the Fife Minerals Local Plan.

MINERALS SUPPLEMENTARY GUIDANCE

1.0 INTRODUCTION

1.1 Minerals are an important natural national resource. They are a basic raw material used in the construction of roads, houses and schools; are important in the production of energy; and are used in agriculture and in a wide range of manufacturing industries, such as glassmaking and brick manufacturing. Specialist building stone is also important in providing material for the restoration of historic building buildings and architectural cladding. Such quarries however are generally small, involve lower extraction rates and may be worked intermittently. Coal from surface mines is an important source of fuel, helping to meet the UK's energy needs.

1.2 Minerals make an important contribution to Fife's economy and the nation's prosperity and so it is essential that there is an adequate supply of material to meet these needs. Their working also provides employment opportunities, often in rural areas.

1.3 However, minerals can only be worked where they are found, and depending on their occurrence may have to be transported to where they are required. The distribution of mineral resources is determined by the geology, which is described for Fife in Appendix 1.

1.4 Despite their importance though, the extraction of minerals may give rise to significant effects on the environment, nearby communities and the transport network. Extraction can lead to dust, noise, pollution, subsidence, and a range of other impacts.

1.5 Proposals involving mineral extraction are often complex and controversial and usually involve the balancing of competing issues. However, negative impacts can often be avoided or mitigated. Whilst some forms of mineral extraction, such as hard rock quarries, can involve long lasting or permanent impacts, others such as sand and gravel or surface coal are temporary land uses.

1.6 With an area of just over 500 square miles, Fife has a varied geography and geology. Due to the diversity of the latter, Fife is rich in potentially exploitable mineral resources such as igneous rock, sand and gravel, coal and silica sand. A brief description of the main minerals of potential economic importance to be found in Fife is given in Appendix 2. Due to geography and geology, Fife mineral resources serve the cities of Edinburgh and Dundee and their hinterlands. They are therefore an important local, regional and national resource.

2.0 DEVELOPMENT PLAN BACKGROUND

2.1 The overarching element of the Fife Development plan is provided by two Strategic Development Plans: TAYplan which is centred on Dundee and comprises Dundee city, Angus, Perth and Kinross and North Fife; and SESplan which is centred on Edinburgh and comprises Edinburgh city, Scottish Borders, East Lothian, Edinburgh, Midlothian, West Lothian and Mid and West Fife. The TAYplan SDP was approved in 2012 and SESplan in 2013.

2.2 FIFEplan Local Development Plan (adopted 2017) covers the whole of Fife.

2.3 Together with the policies of FIFEplan, this Minerals Supplementary Guidance replaces the Fife Minerals Subject Local Plan.

2.4 The policy content of the plans is summarised below.

3.0 MINERALS STRATEGY

3.1 This Guidance and the policies of FIFEplan provide a broad framework for balancing the positive contribution of minerals extraction and its negative impacts. Four objectives for minerals are to:

- Improve the husbandry and management of the exploitation of Fife's mineral resources.
- Safeguard mineral deposits from sterilisation.
- Ensure that the scale and location of mineral extraction is sufficient to meet the needs of Fife's economy as well as contributing to wider city region market area needs.
- Ensure that the protection of the environment and local communities is a key cornerstone and that development will be located/granted with this in mind.

3.2 FIFEplan and this Guidance implement these objectives by setting out a framework for the sustainable use of minerals and their extraction. Mineral extraction is not, in itself, sustainable, as it results in the consumption of finite resources that are not replenished within human timescales. Optimum use of minerals is therefore to be encouraged by minimising waste, encouraging the recycling of material, and by encouraging their efficient use.

3.3 It is important to maintain a landbank for aggregates commensurate with the minerals industry's needs for flexibility and its ability to plan ahead for economic efficiency, consistent with the responsibilities of Fife Council to regulate development in the best interests of the community and the principles of sustainable development. This involves applying the proximity principle by guiding new development to locations where it promotes energy efficiency, reduces unnecessary travel, has good access to the national freight network, increases the likelihood of movement of freight by rail and sea, and has minimal environmental impact.

3.4 There is a practical limit to the degree to which a planning strategy can be applied to mineral working given that the resources can only be worked where they are found. Generally, the most accessible and economically viable mineral deposits have already been exploited. Consequently, remaining unworked minerals are becoming increasingly constrained by many factors including quality, access, built development and environmental issues. In addition there is great public interest in the protection of the environment. The balancing of competing interests is becoming increasingly controversial and difficult and it is the aim of this Guidance to help to minimise such conflicts.

3.5 By its very nature, mineral extraction can be disruptive. This Guidance, therefore, seeks to safeguard local communities from significant adverse effects of operations and to protect the environment from irreversible damage. Where mineral extraction is deemed to be acceptable, it is important to mitigate any adverse impacts. In many cases however, such impacts are temporary and opportunities arise to maintain, and sometimes enhance the overall quality of the environment once extraction has ceased. It is important to achieve a high standard of restoration and aftercare and to provide for beneficial after uses when extraction has ceased.

3.6 Mineral extraction in general, and surface coal mining in particular, can offer significant opportunities to improve degraded landscapes through the reclamation of brownfield or derelict and despoiled land. The prior extraction of minerals can also prepare otherwise unsuitable sites for permanent development through, for example, the consolidation of unstable ground. Several examples of what can be achieved can be seen throughout Mid and West Fife where former mining sites, such as Lochore Meadows, have been successfully and imaginatively restored. Thus new leisure facilities such as lochs and community woodlands can be provided. Additionally, new forms of agriculture such as biomass production and coppicing can result.

3.7 Minerals have been exported by sea from Fife in the past but there are no deposits of a scale that could sustain a modern large scale coastal extraction operation.

3.8 Developers should bear in mind that mineral extraction in former coalfield areas may be affected by, or may in itself affect, any of a number of areas of concern arising as a legacy of coal mining. Such areas of concern may be related to problems of ground stability, minewater contamination or seepage of mine gases to the surface. Development proposals will require to take account of this fact. For this reason, drilling or test boring of old mine workings, mine entries or coal seams requires the prior written approval of the Coal Authority. Prior extraction of coal should be facilitated and encouraged for any substantial new development sites, in line with national policy, aimed at preventing sterilisation of coal. In addition (and not restricted to coalfield areas), potential development sites may have been subject to mining operations other than coal, such as ironstones, limestones and oil shales for example.

4.0 POLICY CONTEXT

SCOTTISH PLANNING POLICY (SPP) (June 2014)

4.1 Scottish Planning Policy states Development Plans should identify Areas of Search or, where appropriate, specific sites for safeguarding mineral resources. Planning authorities should ensure that a landbank of permitted reserves for construction aggregates of a minimum 10 years extraction is available at all times in all market areas.

4.2 In terms of minerals extraction generally, planning authorities should not impose standard buffer zones between sites and settlements since distances will need to take into account various local factors and also to reflect that mitigation may be implemented. The provision of new community facilities or trust funds may be appropriate to offset impact on local communities. Restoration, including progressive restoration, should be carried out to high standards. The appropriate use of financial guarantees, including bonds, is promoted. Extraction should only be permitted where impact on local communities and the environment can be adequately controlled or mitigated. Peatland areas should be protected and commercial peat cutting will only be acceptable in areas suffering historic, significant damage through human activity, and where the conservation value is low and restoration is impossible.

4.3 The sustainable extraction of onshore oil and gas could contribute to secure energy supplies in the medium term. Development plans for areas which are covered by PEDL licences i.e. Fife, should identify these areas. Development plans should also identify the factors that applicants should consider when preparing applications such as community engagement, the minimum and maximum extent of operations and transportation of the end product. Where PEDL licence areas extend across local authority boundaries, planning authorities should cooperate to ensure a consistent approach. Drilling operations should not normally be permitted close to houses and other noise sensitive properties unless noise falls within acceptable levels.

4.4 Development Plans should identify broad areas where surface coal extraction may be acceptable, and set out the criteria to be addressed when assessing individual proposals, including mitigation of cumulative impacts. Development Plans should also ensure that all workable mineral resources which are of economic or conservation value are not sterilised by other development. Extraction should only be permitted where impact on local communities and the environment can be adequately controlled or mitigated. Even within Areas of Search, there is a presumption against surface coal extraction unless the proposal meets one of the following two tests:

- The proposal is environmentally acceptable or can be made so by planning conditions and/or agreements; or

- The proposal involves local or community benefits which clearly outweigh the likely impacts of the extraction.

4.5 Surface coal extraction is normally unlikely to be acceptable if the proposed site boundaries are within 500m of the edge of a community. However this does not preclude ancillary non-engineering works within 500m. Acceptable exceptions may be where extraction would result in improvement of a local amenity or future development opportunities by clearing a substantial area of derelict or despoiled land or the stabilisation of a previously undermined site. Restoration should be designed to a high standard and should be underpinned by a financial guarantee.

PLANNING ADVICE NOTES (PANs) and OTHER MINERAL DOCUMENTS

4.6 There are two PANs relating to minerals. These are:

- PAN 50: Controlling the Environmental Effects of Surface Mineral Workings (and Annex A Noise, B Dust, C Traffic, and D Blasting) (October 1996)
- PAN 64 Reclamation of Surface Mineral Working (December 2002)

4.7 There are also several associated documents which can be found on the Scottish Governments website:

Specific Advice Document: Guidance for the Management of Extractive Waste

Specific Advice Sheets: Brick Clay, Building, Paving and Roofing Stone; Igneous Rock and Silica Sand.

4.8 Fife Council has produced good practice guidance for Opencast Coal and Mineral Quarries. The role of this guidance is to help the operator, Council and Community to better appreciate the different and separate roles we have, and to explain, communicate and work together in a better understood way.

5.0 GENERAL GUIDANCE

AREAS OF SEARCH

5.1 Areas of search for surface coal and sand & gravel are identified in the Local Development Plan. Due solely to the very fragmented spatial distribution of hard rock throughout Fife, no area of search has been designated for it. Geological maps can only ever be interpretations of known data and as such there may be additional resources currently unidentified. Such maps are always subject to revision on the basis of more complete information. For this and other reasons, areas of search are only indicative and applications will be assessed against the policies of the Local Development Plan.

5.2 In identifying areas of search, not all constraints have been mapped. Those that have are Regional Parks, Local Landscape Areas, Country Parks and sensitive landscapes (from the Fife Landscape Character Assessment). A range of other more site specific factors, which are set out in Appendix 4, have not been mapped although they will be taken into account in determining where mineral extraction may be acceptable (it is recommended to look at the SNH website as well http://www.snh.gov.uk/publications-data-and-research/snhi-information-service/). Much will also depend on the nature of the mineral extraction. Where existing sites lie within areas of high or medium constraint then site specific variations reflecting the boundaries of consented operations will apply. The Area of Search Maps for Surface Coal and sand and gravel can be viewed online. It is important to note that these maps are only indicative and must be viewed in conjunction with policies and text and not in isolation.

5.3 For minerals for which Areas of Search are identified, extraction will not normally be permitted outwith them. However, there are some exceptions. Specifically these relate to sites where extraction would stabilise land or help to secure the restoration of derelict land. This is most likely to occur in former coal mining areas. Exceptions may also be acceptable if extraction would help to secure benefits for communities in terms of biodiversity, landscape and recreational provision. Past mineral working has left, in some cases, areas of dereliction and extraction could help to restore such land and bring it back into beneficial use. In this way it can be a useful tool in terms of regeneration. However, in order for extraction to be acceptable outwith areas of search, it should not cause any significant damage to the environment or communities.

5.4 It is important to state however that Areas of Search do not imply automatic approval of proposals located within them. They only indicate where extraction of the relevant minerals may be acceptable. All applications will be subject to rigorous appraisal and will be assessed against policies in the Development Plan and this Minerals Suplementary Guidance. For permission to be granted, proposals must demonstrate that mineral extraction would not adversely affect relevant Natura 2000 site(s) (also referred to as European site(s)) either alone or in combination with other plans or projects. Mineral workings or proposals should also not put at risk the aims of the Water Framework Directive (WFD), information on this can be found here:

http://www.environment.scotland.gov.uk/get_interactive/data_visualisation/water_body_classification.aspx.

Applicants will still be required to demonstrate that there will be no unacceptable impact on local communities or the environment.

SAFEGUARDING

5.5 Minerals are a finite resource and as such it is important to safeguard deposits of potential economic significance from other forms of development. Safeguarding does not however necessarily indicate acceptance of working. The minerals to be protected are coal, peat, hard rock, building stone, sand and gravel, silica sandstone, fireclay and limestone.

5.6 The Council recognises that there is a need for high quality/value mineral resources. Consideration of competing interests will be necessary where they coincide with developments which would result in sterilisation of that mineral. This is especially important where there is development pressure that is contrary to the development plan, for example, large housing sites proposed in or near to areas of known mineral deposits. In some circumstances, such as on the edge of urban areas, the overriding need for new housing or industrial development may outweigh the benefits of mineral extraction.

5.7 Mineral resources that are or may be of commercial interest will be protected from development which could prevent or jeopardise their extraction. Where a proposed development is acceptable in all respects except for the existence of mineral deposits it will be assessed against the following criteria:

- The relative importance of the resource;
- The availability of suitable alternative sites for extraction;
- The likelihood of the site being worked;
- Whether prior extraction could take place.

5.8 Where any proposed development is underlain by potentially important mineral deposits the developer will be requested to provide supporting evidence to show that prior extraction is not feasible or that the need for development should take precedence over mineral extraction. In providing this evidence, it will be necessary to consult with the minerals industry in order to assess the economic viability of the minerals, and if they are economically viable, the feasibility of extraction prior to development taking place.

PRIOR EXTRACTION

5.9 Where another type of development is approved on or near a site containing economically significant minerals, opportunities may exist to avoid sterilisation by their prior extraction. This is particularly relevant to shallow mineral deposits such as coal, where it is easier to reinstate the land back to, or close to existing ground levels and extraction takes place over shorter timescales. Removal of minerals in advance of development therefore is, in principle, a possible solution to sterilisation and may be acceptable but must be achievable in a way that does not cause unacceptable impacts on the surrounding area.

5.10 The extraction of minerals in advance of other planned development, to prevent the sterilisation of the resource, will therefore be supported provided that:

- The other development is in accordance with the provisions of the Development Plan or extant planning permission; and
- Prior extraction would not prejudice the timing or viability of the other development of the land; and
- The proposal is in accordance with all other relevant policies of the Development Plan; and
- The land is stabilised and, where possible, serviced; and
- The developer enters into a legal agreement to ensure that the other development proposals, due to take place after restoration of mineral extraction, are delivered.

CONCENTRATION OF MINERAL WORKINGS

5.11 Proposals for mineral working should not lead to a disproportionately negative impact on nearby settlements or other sensitive land uses. This is particularly relevant if there are

already extraction sites and landfill sites which would result in simultaneous operations within an area, and with potentially significant adverse impacts on communities and the environment. Such applications will not be supported unless it can be demonstrated that the effects can be mitigated and/or there are environmental and community benefits which sufficiently outweigh any material risk of cumulative disturbance or environmental damage. The Council will carefully scrutinise proposals for development which could result in a clustering of operations, including surface coal mining sites, other mineral sites and landfill sites, within an area and, where a proposal is subject to Environmental Impact Assessment, that assessment will need to address potential cumulative impacts of such proposals.

5.12 Some forms of mineral development, such as sand and gravel workings or particularly surface coal extraction, are a temporary land use. However, this temporary period can last a number of years and is exacerbated when several sites are operating at the same time in the same geographical area. Potential impacts such as noise, blasting, dust, vibration and the movements of haulage vehicles may combine cumulatively to have serious effects on local communities and the environment. Where more than one proposal is allowed then opportunities for habitat/wildlife corridors and landscape linkages will need to be investigated.

CONCURRENT WORKING OF MINERALS

5.13 Sometimes, two or more minerals are found together in the same site. For example, fireclays and shales may be recovered as part of a surface coal mining operation. In such cases, it is often beneficial in economic and environmental terms for them to be worked together. To avoid unnecessary sterilisation of such deposits it is important for minerals operators to consider the concurrent recovery and use of all minerals as part of the extraction. This may also reduce the need for opening up greenfield sites elsewhere.

5.14 Consequently, where mineral extraction is acceptable in principle, the concurrent working of two or more minerals from the same site will be supported provided that this can be undertaken:

- without causing an unacceptable impact on the environment and/or on local communities; and
- without prejudicing the strategy of the Plan; and
- where proposals are accompanied by a scheme for the restoration of the whole site with appropriate phasing.

RESTORATION /AFTERCARE

5.15 The importance of restoration is reflected in the Local Development Plan. High quality and appropriate restoration and aftercare are essential and financial guarantees will be sought. There are a range of guarantees that may be acceptable and the Council will agree with operators a preferred option on a case by case basis.

5.16 Proposals for mineral extraction will only be permitted where proper provision has been made for the progressive restoration and aftercare of the site to the highest appropriate standards, ensuring that no future liability from land instability and/or cost to the public purse will arise from inadequate engineering practices. As part of applications, the Council will require developers to submit detailed restoration plans including:

- an assessment of the existing landscape and ecological features/habitats and a practicable scheme showing how the reclaimed site will be assimilated into the landscape;
- details of phasing, filling, landforms, drainage, pollution prevention measures, soil management, landscaping, and arrangements for public access, if appropriate;

- where appropriate, measures to improve the landscape, such as new woodland planting and landscape features and measures to create wildlife habitats to add value to the locality, including wetland areas, based upon professional advice from Scottish Natural Heritage and other appropriate nature conservation bodies;
- community engagement; and
- arrangements for a minimum five year aftercare scheme for the site.

5.17 The restoration of land following mineral extraction is an integral part of the working of any site. Restoration of soil to its original quality or better is consistent with the aim of the Scottish Soils Framework which seeks to promote the sustainable management and protection of soils in meeting the economic, social and environmental needs of Scotland. It is important that restoration should follow on quickly from extraction and a phased programme will be required in order to reduce the impact of the extraction operation.

5.18 Whilst existing topography and woodland may provide an element of screening for plant and workings, it will usually be necessary to provide further complementary landscaping. To create an effective screen, trees, hedges and shrubs must be planted well before extraction commences, possibly even before consent is sought. This can provide an opportunity to plant native species to compensate for their loss elsewhere and may provide a crop of timber in later years. When preparing restoration plans developers should seek professional advice from Scottish Natural Heritage and other appropriate organisations and also have regard to the Fife Landscape Character Assessment.

5.19 Wherever possible, reclamation of mineral sites should be seen as an opportunity to create land uses of benefit to the environment and the public in order to compensate, at least in part, for the disturbance that extraction will cause. This is particularly true where a degraded site is being rehabilitated.

5.20 Appropriate after uses for minerals sites can help to conserve and improve the character and nature conservation value of the landscape while maximising benefits to local communities and the environment. In some circumstances, it may be appropriate to restore land to its former use. Such restorations however, should utilise opportunities for environmental enhancements and other public benefits such as the creation of new features of natural heritage or amenity value including community woodlands, public open space and wetlands or other habitats of nature conservation interest.

5.21 Restoration to agriculture will be required when the loss of agricultural land would adversely affect the economic viability of a farm unit. On some sites, mineral extraction followed by high quality restoration can improve the agricultural productivity of the site. Replacement of surface soil to its original quality or better is consistent with the aim of the Scottish Soils Framework.

5.22 The aftercare period is essentially a programme of positive land management lasting for up to five years after restoration is completed. Its purpose is to bring the reinstated land to a condition where it is fit for the intended after use.

TRAVEL MINIMISATION, TRANSPORT ASSESSMENTS AND ROUTEING AGREEMENTS

5.23 Proposals for mineral extraction should, wherever practicable, seek to transport commodities via the rail network or if suitably located, by sea. Material haulage distances should be minimised if possible. Proposals must clearly detail all potential environmental impacts and identify the measures necessary to minimise the residual environmental effects.

5.24 Development proposals for the extraction of minerals generating significant traffic must be accompanied by a Transport Assessment. The Assessment must be prepared to the satisfaction of Fife Council and take account of the Fife Roads and Transportation Guidelines.

Operators will be expected to implement the outcome of Transport Assessments. The Council will encourage operators to enter into routeing agreements in order to minimise the potential effects upon local communities and the road network and where necessary (via planning agreements) to implement a scheme of vehicle identification.

5.25 Mineral operations tend not to generate a high level of trips by employees or customers, but the use of heavy goods vehicles (HGVs) to transport the product may in certain circumstances have an adverse effect upon the road network. Since much of the minor road network is unsuitable for HGVs, routeing agreements will focus on locations where alternative modes of transport are possible or with good access to the principal road network.

5.26 Where permissions are granted, the Council will seek to ensure that site access roads and junctions are in accordance with the Council's Road and Transportation Guidelines. The Council will also ensure that measures such as wheel cleaning, sheeting of vehicles and restrictions on numbers and times of lorry operations are in place to protect amenity. A legal agreement may be required to ensure that excessive wear and tear of road surfaces is made good by operators.

NOISE, DUST, BLASTING & LIGHT

5.27 Proposals must ensure that the effects of noise, dust, blasting and light nuisance are minimised. The nature of mineral extraction can vary enormously between the different sectors of the industry. Sand and gravel extraction is very different to surface coal mining which in turn is very different from hard rock quarrying. These different types of operation result in different impacts. Applicants must consider measures to mitigate the effects of activities that could result in unacceptable levels of ground vibration, air overpressure, dust, noise and light pollution. Applications must comply with Planning Advice Note 50 and its associated annexes. This will include the establishment of a baseline position in regards to noise, dust, traffic routes and structural surveys of a number of surrounding properties to help assess the impact of development on local residents.

5.28 Mineral operations can generate noise from a variety of sources with different levels and characteristics. Government guidance recognises that noise can have a significant effect upon the environment and the quality of life enjoyed by communities. Whilst mineral working can be noisy, there are various measures that can be adopted to mitigate impacts of noise. Operators should plan ahead by introducing measures such as:

- creating advanced screening;
- incorporating screening by natural or other barriers as part of the quarry design;
- using acoustic fencing or baffle mounds;
- maintaining an acceptable distance between workings and noise sensitive properties; and
- siting fixed plant and facilities in places where their impact can be minimised.

5.29 In accordance with National Guidance, the Council will require developers to identify all noise sensitive properties and carry out a background noise survey. They should also estimate the likely future noise levels. In assessing planning applications the Council will take into account best practice and the advice contained in PAN 50 Annex A.

5.30 The generation of dust at mineral sites is related to a number of factors including the type of mineral being extracted, method of working and any processing undertaken on site, local climatic conditions and topography. Developers will be expected to undertake a Dust Assessment Study for all new and extended mineral operations. The Study should include:

- identification of any dust sensitive properties likely to be affected by the development and the likely effects on them;
- establishment of existing baseline conditions;

- identification of site activities that could lead to dust generation; and recommendations on measures to reduce dust and its impact.

5.31 Blasting is necessary to loosen or fragment rock in situ at hard rock quarries and in surface coal mines. It is not usually required in other forms of mineral extraction. Blasting is expensive and is usually only considered when other extraction techniques are either impossible or uneconomical.

5.32 The blasting of surface material can lead to a number of significant side effects including: ground vibration, air overpressure, noise, dust and flyrock. Mineral operators will be expected to conform to the advice contained in Planning Advice Note (PAN) 50 and associated Annex D.

5.33 Since the effects of blasting may be felt some distance from an operation, the Council will fully consider the impact of blasting on all sensitive properties. However, it is recognised that most buildings likely to be affected by vibrations from blasting tend to adjoin or be adjacent to the mineral operation.

5.34 The use of floodlighting on mineral operations can be intrusive affecting the amenity of neighbouring properties and character of the landscape. Operators will be expected to implement measures to mitigate the effects of light pollution such as good design and use of energy efficient light sources. Details of proposed artificial lighting and measures to mitigate pollution will be required as part of any planning application.

WATER ENVIRONMENT, SITE WASTE MANAGEMENT & NUISANCES

5.35 Scottish Environment Protection Agency offers best practice guidance and advice that developers need to follow to ensure their business is environmentally sound. This guidance covers the side effects from mining and quarrying including emission to air, land contamination, noise pollution, water pollution and visual intrusion. This guidance can be found here:

http://www.sepa.org.uk/customer_information/mining_and_quarrying.aspx

&

http://www.sepa.org.uk/planning/mining_and_quarrying.aspx

DEVELOPMENT MANAGEMENT

5.36 Proposals for mineral extraction have the potential to create both positive and negative impacts on the environment, communities and the economy. To enable the Council to fully consider the potential impact of mineral development, planning applications must include sufficient supporting information to allow them to be assessed. Where appropriate, planning applications should demonstrate consideration of the following:

- cumulative impact,
- noise,
- dust,
- vibration,
- traffic and transportation,
- landscape and visual amenity,
- the water environment,
- biodiversity
- protected species and their habitats.

Planning applications which do not include sufficient supporting information to allow proper assessment of the impact of the proposed development will be refused. Developers are also required to secure other regulatory authorisations in accordance with PAN 51.

5.37 To assist in its consideration of impacts on local communities, neighbouring uses and the environment, applicants should undertake a risk assessment for any minerals proposal. The assessment can, where appropriate, be undertaken as part of any environmental impact assessment and should also be developed in consultation with statutory consultees and local communities so that it informs the design of the proposal. The assessment should clearly identify those onsite activities that pose a potential risk using a source-pathway-receptor model and explain how measures, including those under environmental and other legislation, will be used to monitor, manage and mitigate any identified risks to health, amenity and the environment. The evidence from, and outcome of, the assessment should lead to buffer zones being proposed in the application which will protect all sensitive areas from unacceptable risks. Where proposed distances are considered inadequate planning permission will be refused.

5.38 Through the development management process, applicants should involve local communities at all the relevant consultation stages to help local communities understand the likely impact of their proposals and also inform them of the potential impacts and possible solutions.

5.39 Fife Council has published a list of standard mineral planning conditions. All applicants should be familiar with them.

LEGAL AGREEMENT

5.40 Planning or other legal agreements may be necessary where impacts cannot be sufficiently mitigated or controlled by means of planning conditions alone. Fife Council and applicants need to consider whether an agreement is required to regulate the development and to ensure external effects related to the development are provided for. The Council may use other powers or statutes to control particular issues such as the care of highways.

REVIEW OF EXISTING MINERAL PERMISSIONS (ROMP)

5.41 Mineral operations can have a long lifespan over many decades and many quarries started operating before the advent of the current planning system. The Government of the day acknowledged over 30 years ago that the situation regarding old mineral permissions was not satisfactory and introduced legislation that sought to modernise them.

5.42 Mineral planning permissions granted prior to the 1st July 1948 (Interim Development Order permissions) were regularised in the early 1990s. Permissions granted between 30th June 1948 and 22nd February 1982 were also regularised following provisions made in the Environment Act 1995 for the Review of Mineral Permissions. This issue is also addressed by Section 74 of the Town and Country Planning (Scotland) Act 1997.

5.43 The legislation now requires that all mineral operations, except those permitted under the old General Permitted Development Order (GPDO) (operations that were permitted development e.g. farmers working minerals for use on the agricultural unit), should be subject to periodic review. The periodic review is required 15 years from the date of either a previous review or, if no review has taken place, 15 years from the date of the latest planning permission relating to the site.

5.44 Under the provisions of ROMP, operators are required to be notified of the need to submit an application for approval of new conditions one year before the due submission date. Failure to submit an application by the due date means that planning permission will cease to have effect.

GREEN BELT

5.45 The Local Development Plan (FIFEplan) designates Green Belts to the west and southwest of Dunfermline and around St Andrews. The purpose of the policies is to maintain existing landscape settings (including critical views to and from historic cores) to divert growth and prevent coalescence and to control any inappropriate countryside recreation or institutional developments. Where there is intervisibility between intrusive development proposals and the towns' historic cores there is a presumption against all development. The presumption against development includes mineral workings where there is an adverse impact on the rural character including landscape and nature conservation. The precise boundaries of the Green Belts are shown in the Local Development Plan.

ENVIRONMENTAL MONITORING AND AUDITS

5.46 Operators will be required to submit regular and frequent environmental monitoring and technical information, audits and progress plans through an independent consultant. The scope and frequency of these will be established through planning conditions. These progress plans will, at a minimum, set out the progress of operations and extent to which environmental and operational conditions of any consent and/or legal agreement are being complied with. They will also require to detail any proposed changes or departures from the planning consent and address any implications that these may have on the satisfactory restoration, end uses or other operational aspects of the site.

5.47 The monitoring will be a continuous process with regular data being provided to the Council on a range of potential impacts including noise, vibration and dust levels, routeing and number of vehicles, and blasting. It is acknowledged practice that this work is undertaken by an independent consultant reporting to the operator and the Council. Where appropriate, monitoring should be undertaken from agreed sensitive locations outwith the site. An audit and a progress plan will be submitted on an annual basis, or more frequently if required, identifying the compliance with the planning consent and any legal agreements.

ENVIRONMENTAL ASSESSMENTS

5.48 Under the Environmental Impact Assessment (Scotland) Regulations 2017, a planning authority must request an Environmental Impact Assessment (EIA) Report for certain developments where the authority considers that such developments would have "significant" environmental effects. Where a formal EIA Report is not warranted, the authority will use its powers under regulation 24 of the Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013, if necessary, to request environmental information.

5.49 Where necessary, the Council will require an EIA Report to be submitted by the applicant/operator. Certain projects not requiring a statutory Environmental Impact Assessment may still require adequate assessment of the environment to inform options, design and mitigation as necessary. This non statutory Environmental Assessment of the effects of the proposed workings will require to be submitted addressing the risks to the water environment; site waste management; and also covering landscape; visual impact; biodiversity; soil, air water and climate; human beings; cultural heritage; public footpaths, bridle ways and Rights of Way; agricultural interests; and restoration details.

5.50 For either type of Assessment, the scoping should be agreed with the planning authority at the outset, and final documents submitted with the planning application to avoid unnecessary delay.

MINERAL SURVEYS

5.51 The Council will require mineral operators to provide information on individual sites. Regular liaison and surveys are needed to update information on production figures, remaining reserves and market areas served. To effectively monitor the implementation of the Plan and, in particular, the aggregate landbank position, the Council and its local authority partners need access to up-to-date estimates and assessments. Whilst recognising that some of this information can be commercially sensitive, it is important that basic statistics on production and remaining reserves are available to effectively monitor the effectiveness of the Local Development Plan and Minerals Supplementary Guidance .

5.52 The availability of this data will allow the supply position to be monitored and ensure that reserves can be brought forward timeously to meet any shortfall that may be identified in the aggregate landbank. The Council's preference will be to use any survey information gathered by the Scottish Government and strategic development plan authorities to avoid unnecessary duplication. The Council will co-operate fully with any such surveys. This will be supplemented, if necessary by thecollection of information locally.

PROXIMITY TO SETTLEMENTS

5.53 The relationship between any settlement and its landscape setting is important and will be taken into account in assessing applications.

5.54 The impact of mineral workings, for example, noise, dust, vibration and visual intrusion, may not sit well alongside housing, other sensitive land uses and with the landscape setting of settlements. The effect of these impacts tends to reduce with distance and it is appropriate therefore to ensure a buffer zone is maintained between those living near a mineral site. Other sensitive land uses include residential homes, schools, hospitals, offices and other premises attracting significant numbers of people. Scottish Planning Policy discusses separation distance and indicates that a separation distance of less than 500 metres between communities and surface coal mining operations is unlikely to be acceptable but local circumstances may support longer or shorter separation distances as set out below.

5.55 An appropriate buffer zone between site boundaries and settlements must be provided, and this should be compliant with Scottish Government advice in the form of Scottish Planning Policy. For surface coal, extraction is unlikely to be acceptable if proposed site boundaries are within 500 metres of a settlement, or would have unacceptable impacts on individual houses or sensitive properties outwith communities and effects cannot be mitigated satisfactorily. Non engineering works such as landscaping, or other mitigation works such as screening mounds or noise barriers should be acceptable. A 500 metre zone is not an absolute distance however. There may be local circumstances which justify a greater or lesser distance. Such factors would include topography, landscape, prevailing wind direction and visibility. Site boundaries within 500 metres may be acceptable where extraction would result in improvement of local amenity or future development opportunities by clearing a substantial area of derelict land, the stabilisation of an undermined site or other similar environmental gain.

5.56 For other minerals, Scottish Planning Policy makes clear that authorities should not impose standard buffer zones between sites and settlements since distances will need to take account of the specific circumstances of individual proposals, including the method of working, size, duration, location, topography, likely environmental impacts and mitigation. Methods of working can vary considerably between different forms of mineral extraction, depending upon scale of operation and whether or not blasting would be required, for example.

5.57 The amenity of local residents in groups of dwellings outwith communities or in individual dwellings will be safeguarded. In such situations, the extent of any buffer zones will be

determined at the time of any planning application, taking into account the scale and duration of the mineral working and the character and setting of the dwellings concerned.

COMMUNITY BENEFIT AND LIAISON

5.58 To assist with this process and to ensure that the local community can voice concerns direct to the operator, liaison committees will require to be established. These committees will have local council and community representatives together with the operator and will have a locally elected representative as the chairperson. Meetings will require to be held regularly, and will focus on any difficulties being experienced by local residents and how these can be overcome, along with progress updates consistent with the advice highlighted in Scottish Planning Policy. PAN81: Community Engagement advises that applicants/developers/operators are encouraged to consider entering into Good Neighbour Agreements and these could provide positive benefits for both operators and local residents.

RECYCLING/SECONDARY AGGREGATES

5.59 The recycling of construction and demolition waste and the reworking of waste material from old mineral sites can be a substitute for primary aggregates and reduce the need for primary extraction. This is a more sustainable approach to the supply of minerals and to waste management. The introduction of the Landfill Tax and Aggregates Levy on newly dug aggregates, has acted as a driver reducing the amount of recyclable materials going to landfill.

5.60 Applications for the re-working of material from former mineral workings will be supported where the material produced will be a substitute for primary material and where the site is to be satisfactorily restored after reworking. Applications will not be supported where a site has already been satisfactorily restored, unless the material is required for a proven need that cannot otherwise be met.

5.61 Reprocessing of demolition and construction waste is in most cases likely to be an open-air activity and it should be located carefully to minimise the impact on residential areas and other sensitive land uses (schools, hospitals etc.). Locating reprocessing plant in operational landfill or mineral sites must not prejudice or delay the restoration of the sites, nor establish permanent reprocessing plant in a location which would otherwise be unsatisfactory. The additional disturbance to adjoining uses from traffic, dust and noise will be carefully considered.

562 Spoil heaps or bings from former extractive workings which contain residual mineral deposits may have been in place for some time and natural regeneration may have occurred to an extent that makes the deposit an attractive feature in its own right. Mineral wastes may also have been used in the restoration of a former mineral site that has already been brought into a satisfactory after use. In these circumstances, unless there is a proven need for the material that cannot otherwise be met, the removal of material will not be supported.

CARBON FOOTPRINT

5.63 Whilst minerals extraction is an inherently unsustainable economic activity, new minerals development should aim to minimise the negative impacts of extraction by reducing its carbon footprint, thus contributing to sustainable development. In doing so, it should seek to limit greenhouse gas emissions from operations and support zero waste objectives. This can be done in a variety of ways, for example locating extraction sites as close as possible to the markets to be served to minimise haul distances and transport emissions. Minerals working can reduce the carbon storage capacity of a site through for example soil and vegetation stripping but it is quite possible to redress this imbalance by good quality appropriate

restoration. In this way the carbon storage capacity of a site can be increased after production has finished.

MINERAL WASTE

5.64 Mineral waste comprises overburden, unusable rock and process waste such as fines from construction and screening. Most mineral waste is deposited within the curtilage of the site as backfill or to form screening mounds. It is possible to rework it and put to new use.

5.65 Proposals for the use and deposit of mineral waste at a mineral site must be addressed through a waste management scheme for the site. The surface deposit of mineral waste at an operational mineral site will be supported where it can be demonstrated it would make a positive contribution to the screening or the restoration of the site and no opportunity exists to recycle the waste.

5.66 The Management of Extractive Waste Regulations (Scotland) 2010 which came into effect in 2010 transpose the Mining Waste Directive (MWD) in Scotland and new sites are required to be compliant. This aims to ensure that measures are in place to prevent or minimise any adverse effects on the environment, especially water, air, soil fauna and flora and landscape, and any resultant risks to human health, as a result of the management of waste from extractive industries. The MWD addresses wastes including slurries, waste rock, overburden and soil which are left over once mineral extraction operations have been completed.

5.67 How mineral waste will be managed should be an integral issue for all new applications for mineral working. If not disposed of carefully, such waste can have a detrimental impact on the environment and on the amenity of local communities. In assessing proposals, consideration will be given to the extent the material is being positively used or re-used and how it otherwise accords with the policies of the Plan.

AGGREGATES LANDBANK

5.68 A minimum 10 years landbank of construction aggregates, that is hard rock and sand and gravel, will be facilitated at all times and in all market areas as set out in the Local Development Plan. Fife is part of two city regions for planning purposes based on Edinburgh and Dundee. As such these two cities require aggregates but have very little or nothing in the way of workable resources, especially sand and gravel. They are therefore importers of aggregates. The economics of the minerals industry is not based on land use planning areas but rather on haul distances and the location of resources. This means that Fife's quarries, especially those working sand and gravel deposits, serve a wide market area including neighbouring local authority areas. By far the majority of Fife's sand and gravel resources are located in the north i.e. the TAYplan area but they also serve South and Mid Fife i.e. the SESplan area, as there is very little in the way of such resources in these areas.

5.69 Aggregates are not a homogenous product. In terms of sand and gravel alone the product can be split into several "sub products" depending on its intended end use i.e. asphalt sand or concrete manufacturing. Hard rock too may be used for rock armour, railway ballast, decorative purposes or road material (which requires a Polished Stone Value or PSV greater than 60). Again these different end uses influence the extent and location of markets. Premium or specialised products tend to have a wider market area than standard products.

5.70 Fife Council will facilitate the provision and maintenance of a minimum ten year landbank for aggregates for the appropriate part of the Strategic Development Plan market areas through the granting of appropriate planning permissions.

5.71 Estimating the landbank is not a precise science and can only ever be based on estimates. It is not even possible to calculate exactly the potential reserves of a site before consent is

obtained, as this is based on an interpretation of the underlying geology. During the lifetime of a site, material quality can vary from that expected at the outset or unexpected geological conditions or features can be encountered, which reduce the amount of remaining reserves.

5.72 Applications for mineral extraction tend to be complex and are often controversial. Consequently it can take several years to obtain planning consent and open up sites, especially in the case of hard rock quarries. As such it is prudent to facilitate a landbank comfortably in excess of the minimum 10 years. As at mid 2014, there is a requirement for 11.84 million tonnes of consented reserves to ensure a continuing 10-year landbank to 2025. Any shortfall in meeting the requirement will be addressed through the granting of appropriate planning permissions which should be phased over the period of the Plan.

PIPELINE PROTECTION

5.73 Fife has a number of installations holding notifiable substances, including pipelines. Whilst they are subject to stringent controls under existing health and safety legislation, it is also a requirement to control the limits of development permitted in the vicinity of these installations. For this reason, Fife Council has been advised by the Health and Safety Executive of consultation distances for each of these installations. In determining whether or not to grant planning permission for a proposed development within these consultation distances, the Council will consult the Health and Safety Executive about risks to the proposed development from any notifiable installation.

6.0 SPECIFIC MINERALS GUIDANCE

COAL

6.1 Although the commitment to increase the amount of energy generated from renewable sources is a necessary and laudable response to climate change, the transition will be gradual and will take time. The use of fossil fuels such as coal will therefore have an important role to play for some years to come and in making a contribution to ensuring a diverse and secure energy supply. As at 5 March 2014, 38.8% of the UK's electricity was generated from coal (source: BM Reports website). However, a decision was taken to close the Longannet Coal-Fired Power Station in 2015, which removed the main local market for coal in Scotland. This, in conjunction with the regular importation of coal from countries such as Russia, Colombia, the USA and Australia has seen a marked reduction in the need for coal to be mined in Scotland. Nevertheless, it remains important to have clear guidance on the winning and working of coal.

6.2 Although Fife has a long history of coal mining, it no longer has any deep mines, the last at Longannet closing in 2002. Geology dictated the location of mining and most activity took place in the West, Central and East Fife coalfields. Today remaining activity takes the form of surface mines, although the majority of these are now in restoration and aftercare following the economic difficulties encountered by the surface coal mining industry in Scotland in recent years.

6.3 Unlike the aggregates landbank, demand for coal is not a planning issue, nor is the quality of deposits. These are matters for the market. Issues such as sterilisation of deposits, areas of search, settlement buffer zones and restoration, although important in their own right are addressed elsewhere in this document and in the Local Development Plan. In general the planning system should aim to minimise any significant impacts from surface coal extraction and proposals should only be permitted where impacts on local communities and the environment can be properly controlled or mitigated.

6.4 Restoration of surface coal mining sites is an important issue given the potential scale and nature of operations and the costs involved, which are far higher than comparable costs in the aggregates industry. Although surface coal mining is a temporary land use, its impact can be considerable and long lasting. Much work has been done in recent times at Scottish Government level around bonds and financial guarantees for minerals and other large development proposals.

HARD ROCK

6.5 Due to its longer term nature and different working practices, hard rock quarrying is different from other forms of mineral extraction. Consequently, environmentally acceptable extensions to existing quarries will be preferred to new quarries. The creation of new hard rock quarries will not therefore be supported if environmentally acceptable extensions to existing sites are feasible and capable of meeting any shortfall in landbank requirements.

6.6 The Local Development Plan's strategy facilitates an adequate land bank to meet market needs for crushed rock aggregate which will satisfy the objectives of promoting sustainable economic development and environmental acceptability. As with proposals for surface coal mining, other important issues include social, community, environmental and economic impacts. In the event of a shortfall in the landbank occurring, preference will be given to meeting this through extension of sites with existing planning consent.

PEAT

6.7 Peatlands are one of Scotland's most important environmental assets, should be protected and have an important role in mitigating climate change, as they act as a carbon sink. However extensive areas of peat are relatively rare in Fife. Commercial peat cutting can therefore raise environmental concerns and will therefore only be permitted where:

- it does not conflict with any other policies in the Fife Development Plan;
- the peat land is already degraded or significantly damaged by human activity; and the conservation value is low and restoration is not possible;
- For ancillary extraction of peat associated with other mineral development, the Council will seek to ensure that best practice is used for the handling, storage and restoration of the peat, in order to minimise potential degradation and promote active peat formation and where appropriate the creation of habitats of nature conservation interest.

6.8 All proposals for the extraction and storage of peat should assess the Carbon Dioxide emissions and also be supported by details demonstrating how the handling, storage and restoration of the material will reflect current best practice and how potential degradation will be minimised and active peat formation promoted. Peatland mapping data can be found here: http://gateway.snh.gov.uk/natural-spaces/index.jsp

UNCONVENTIONAL HYDROCARBONS

6.9 Scotland has potentially significant reserves of onshore oil and gas and NPF3 states that this could contribute to secure energy supplies in the medium term but will require careful planning to avoid negative environmental and community impacts from extraction activities. Although grouped under the heading of "Unconventional Hydrocarbons", the various methods of extraction are quite separate and involve different processes and potential impacts. They can be classified as follows:

• coal bed methane – extraction by drilling into un-mined coal seams to release methane. Hydraulic fracturing is not usually required;
• capture of methane that has accumulated in old coal mine workings; and
• gas derived from shale reservoirs, often at considerable depth. Hydraulic fracturing may be required.

The Scottish Government put in place a moratorium on Unconventional Oil and Gas (UOG) in January 2015, preventing the development of any project involving hydraulic fracturing, also known as 'fracking', or any coal bed methane extraction technologies, until a body of evidence had been collected which indicated whether such processes can be carried out in an environmentally friendly manner. A series of 6 research papers was published by the Scottish Government in November 2016, in advance a full public consultation process in the early part of 2017. The Scottish Government announced its preferred policy position to not support the development of unconventional oil and gas in Scotland in October 2017. The preferred position is currently subject to the necessary statutory assessments, prior to finalisation.

6.10 Fife has potential reserves of unconventional hydrocarbons in the form of gas, mainly in rocks of carboniferous age. These are currently being assessed by the British Geological Survey.

6.11 Interest has also been shown in underground coal gasification but this is a different process, often undertaken offshore with collection onshore, but it can occur onshore. Typically this would involve collection of "syngas" from the combustion of deep undersea coal seams, which is then pumped ashore. Associated onshore installations would involve processing plant and

transmission infrastructure. A decision was taken by the Scottish Government in October 2015 to place a temporary moratorium on UCG. Subsequently, the Scottish Government announced that UCG would not be acceptable in Scotland.

6.12 Onshore gas extraction is regulated by the Health and Safety Executive and the Department of Energy and Climate Change (DECC) which awards Petroleum Exploration Development Licences (PEDLs) in the UK for geographic blocks. A number of Petroleum Exploration Development Licences have been awarded to operators for extensive areas of Scotland, including parts of Fife, to permit prospecting. Commercial Licences have been awarded for 2 licence blocks in and around Fife. These are:

- PEDL 133 which covers the south west of Fife but mainly falls within Falkirk, Clackmannanshire and Stirling areas.
- PEDL 163 which covers a rectangular block from north of Crossgates in the west to Kirkcaldy and south Glenrothes in the east.

6.13 Unconventional hydrocarbon resources therefore extend beyond defined local authority boundaries. In recognition of this, Fife Council will liaise with neighbouring authorities to ensure a consistent approach to extraction and distribution including assessment of any cumulative effect. In addition to requiring commercial licences, approval is also required from other regulatory organisations such as the Coal Authority, Marine Scotland and the Scottish Environment Protection Agency. In addition, planning permission is also required for drilling operations and surface installations on land. The Scottish Government announced its preferred policy position to not support the development of unconventional oil and gas in Scotland in October 2017. The preferred position is currently subject to the necessary statutory assessments, prior to finalisation.

6.14 Interest has already been shown in coal bed methane (CBM). This gas is found naturally in coal seams and is formed when organic matter decays. It is won by drilling into a seam, reducing pressure and collecting the gas which is then fed into the distribution network. Coal bed methane can be extracted from deep seams that would be unsuitable or uneconomic to mine. It can also help to reduce methane hazards associated with old coal mines. The Scottish Government announced its preferred policy position to not support the development of unconventional oil and gas in Scotland in October 2017. The preferred position is currently subject to the necessary statutory assessments, prior to finalisation.

6.15 Notwithstanding this on-going research and consultation process, paragraphs 6.36 and 6.37 set out the development management requirements with regards to any application, and every application is considered on its merits. In practice this will relate mainly to the impact of wellheads and transmission infrastructure. Scottish Planning Policy requires Development Plans, for areas covered by Petroleum Exploration and Development Licences, to identify the factors that will be taken into account when deciding planning applications for wellheads and transmission infrastructure. This is set out below, in assessing the relevant factors Fife Council will take into account whether the proposal is for exploration, appraisal or production, and with the caveat that the final decision that the Scottish Government takes on the exploitation of UOG may alter the general guidance given at this point in this document.

6.16 Proposals could be supported provided they undertake a risk assessment which demonstrate how the operations will satisfactorily:

- Prevent unacceptable noise impact;
- Prevent pollution of land, air and water;

- Prevent significant seismic events;
- Minimise the adverse impact on communities and the economy;
- Minimise the adverse impact on the natural heritage and historic environment, and landscape and mitigation / compensatory measures;
- Minimise adverse visual impacts;
- Minimise adverse transport impacts; and
- Remove plant, equipment and buildings and achieve high quality restoration and aftercare of the sites on completion of each stage of exploration, appraisal and production unless the proposal is moving to the next stage in the process.

6.17 Siting in locations close to residential or noise sensitive properties, or in locations afforded specific protection by the Development Plan's environmental and coast policies will not normally be acceptable. Where possible, transport of the end product from the extraction point should be via pipeline, rail or water transport rather than by road.

6.18 In identifying drilling locations, operators should take into account the potential effects on neighbouring land uses and ensure that applications contain sufficient information to adequately assess the environmental implications of their proposal. Where necessary, directional drilling techniques should be used to facilitate extraction from reserves below sensitive areas. Conditions should be drafted in a way that ensures that hydraulic fracturing does not take place where permissions for such operations is not sought and that any subsequent application to do so is subject to appropriate consultation. If such operations are subsequently proposed, they should, as a matter of planning policy, be regarded as a substantial change in the description of the development for which planning permission is sought or a material variation to the existing planning permission. Proposals should include appropriate and satisfactory measures to screen and landscape production sites and transmission infrastructure. Conditions and agreements will be attached to planning permissions to ensure the exploration and production operations have an acceptable impact on the local environment and residents.

7.0 GLOSSARY

Aggregate: sand, gravel, crushed rock and other bulk materials used by the construction industry.

Local Landscape Areas: local landscape areas that merit protection for their special character and qualities. (These supersede the former Areas of Great Landscape Value.)

Brownfield Site: land which has previously been developed. The term may cover vacant or derelict land, land occupied by redundant or unused building and developed land within the settlement boundary where further intensification of use is considered acceptable.

It does not include mineral workings, temporary uses, parks and gardens, sports and recreation grounds, woodlands and amenity open spaces (landscaped areas that improve an area's appearance).

Carboniferous period: the period of geological time between 360 and 300 million years ago.

Communities: a group of 10 or more dwellings, as defined in the Local Development Plan

Development: the carrying out of building, engineering, mining or other operations in, on, over or under land or the making of any material change in the use of buildings or other land (a legal definition can be found in the Town and Country Planning (Scotland) Act 1997 as amended by the Planning etc (Scotland) Act 2006).

Devonian period: the period of geological time from 420 to 360 million years ago.

Dyke: a sheet like body of igneous rock which cuts across the bedding planes of the host rock.

Environmental Assessment: the process of assessing the environmental impact of a development proposal prior to determining a planning application. It is a statutory requirement for certain forms of development, based on the scale, nature and location of the proposal.

Esker: a long winding ridge of sand and gravel found in previously glaciated regions.

Extrusive: igneous rock which has flowed out at the surface of the earth

Felsite: a fine evenly grained acid or intermediate igneous rock.

Fluvioglacial: erosion and deposition caused by flowing meltwaters from glaciers or ice sheets.

Flyrock: the projection of material from a blast site to any area beyond the designated Danger Zone.

GPDO: General Permitted Development Order: A statutory instrument which defines what does and does not require planning permission.

Greenfield Site: a site which has never previously been developed or used for an urban use or is on land that has been brought into active or beneficial use for agriculture or forestry i.e. fully restored derelict land.

Hard rock: consolidated rock such as dolerite or andesite.

Igneous: rocks originating from a molten state which are characteristically of crystalline composition.

Intrusive: igneous rock which has forced itself into pre-existing rock.

Kame: a steep sided alluvial cone, containing sand and gravel deposited against an ice front.

Landbank: a stock of mineral reserves for which planning permission has been given.

Local Nature Reserve: a nature reserve established by a local authority under the powers in the National Parks and Access to the Countryside Act 1949.

Mineral reserve: part of a mineral deposit economical to mine or quarry, fully evaluated and free of any legal impediment to extraction.

Mineral resource: all other mineral deposits other than reserves.

National Nature Reserve: a site designated by Scottish Natural Heritage which is considered to be of national importance for its natural heritage interest. National Nature Reserves are managed with nature conservation as the primary objective.

Natura 2000 site: part of a European network of Special Protection Areas (SPAs) and Special Areas of Conservation (SACs).

Outwash Fan: a fan-shaped heap of material formed as a result of deposition by melt waters of glaciers.

Overburden: soil and other material that overlays a mineral deposit which has to be excavated and either tipped or stockpiled to gain access to the underlying mineral.

PEDL Licence: Petroleum Exploration Development Licences awarded to operators by the Department of Energy and Climate Change. They are commercial licences and are awarded on the basis of an applicant's financial status and technical competence.

Permian period: the period of time from 300 to 250 million years ago.

Polished Stone Value: this is a measure of an aggregate's resistance to the polishing action of vehicle tyres. Aggregate that has a PSV of over 60 is regarded as a high skid resistant material.

Precautionary Principle: taking action to avoid possible environmental damage when evidence for acting is inconclusive but the potential environmental change could be great.

Prime agricultural land: Agricultural land identified as being Class 1, 2 or 3.1 in the land capability classification for agriculture developed by Macaulay Land Use Research Institute (now the James Hutton Institute).

Proximity Principle: Management of waste as near as possible to its place of production.

Ramsar site: a wetland site of international importance for birds protected through the Ramsar Convention on Wetlands of International Importance (1971). These sites contain habitats which have declined world wide and are often important for waterfowl and other wetland birds.

Regionally Important Geological/Geomorphological Sites (RIGS): a geological or geomorphological site identified as being of local interest or value in educational or research terms. Geomorphology is the science of the physical features of the earth (rocks, for example) on land and below water.

Scheduled Monument: a monument, existing above or below ground, which because of its national archaeological importance, has been statutorily protected under the Ancient Monuments and Archaeological Areas Act 1979.

Sedimentary rock: rocks formed from material derived from pre-existing rocks.

Settlement: term used to identify towns and villages.

Shallow Coal: coal measures which lie sufficiently close to the surface to allow extraction by surface mining methods.

Sill: a sheet like body of igneous rock which conforms to bedding planes of the host rock.

Sites of Importance for Nature Conservation (SINC): a site identified by a local authority as being of regional or local importance in terms of its nature conservation interest.

Site of Special Scientific Interest (SSSI): a site notified by Scottish Natural Heritage (SNH) under the Wildlife and Countryside Act 1981 as an area of land or freshwater or seawater to the Mean Low Water Mark of Ordinary Spring Tides, which in the view of SNH is of special interest in a national context. SSSIs form the main national designation, which underpins other designations including those of international status.

Sterilisation: when a change of use or the development of land prevents possible mineral exploitation in the foreseeable future.

Surface Mining: mineral extraction involving surface working as opposed to sub-surface or deep mining.

Sustainable development: development that meets the need of the present without compromising the ability of future generations to meet their own needs.

Sustainable Urban Drainage Systems: techniques for dealing with the problems of flooding and surface water quality using the best practicable environmental solutions.

Syngas: typically a mixture of hydrogen, carbon monoxide and carbon dioxide.

Unconventional Gas: the chemical composition is identical to conventional natural gas and is only labelled as such due its atypical geological locations. Usually found in fractures and pore spaces in compact rocks with low permeability such as coal or shale. **Vibration Sensitive Buildings:** any building occupied by a person or persons either on a regular or irregular basis as a form of dwelling, workplace, meeting place etc.

8.0 Appendices

APPENDIX 1: SUMMARY OF THE GEOLOGY OF FIFE

Bedrock

Fife lies in the eastern part of an ancient rift valley that forms the geological region known as the Midland Valley of Scotland. This extends from the west to the east coast and comprises an area of 'subsided' but not necessarily low land between two major bounding faults. These are the Highland Boundary Fault to the north and the Southern Upland Fault to the south. During Devonian and Carboniferous times, that is between 420 and 300 million years ago, thousands of metres of sediments were laid down by rivers and the wind, and in lakes and the sea. Volcanoes periodically erupted and their products are seen both as lava flows and the eroded remnants of their internal plumbing systems in the form of sills, dykes and cylindrical plugs.

The oldest rocks in Fife are igneous in origin. They are located in North Fife in the eastern Ochil and North Fife hills. These consist of andesite and basalt lava flows interbedded with sedimentary rocks, mainly conglomerates. They belong to the Ochil Volcanic Formation and are about 415 million years old. The lavas extend NE between the southern banks of the Firth of Tay and the north side of Stratheden. They are worked for hardrock aggregate at Clatchard Craig Quarry, Newburgh. Some igneous intrusions also are present such as the red felsite quarried for aggregate at Lucklawhill. Younger sedimentary rocks underlie much of the rest of Fife forming lowland ground. However there are important exceptions. These include the uplands of the Lomond, Benarty and Cleish hills that are largely formed from a hard, dolerite sill intrusion about 300 million years old.

The Ochil Volcanic Formation is overlain unconformably by yellow and red sandstones of late Devonian age (about 375 million years old). These underlie Stratheden and Loch Leven in Kinross. These Stratheden Group rocks are also found on the shores of the Tay between Newburgh and Balmerino. They were laid down as the deposits of rivers and the wind when Scotland was located somewhat south of the equator in a semi-arid, seasonally wet climate. The sandstones have provided good quality red building stones (e.g. Strathmiglo) in the past and are an important source of groundwater supply today as at Balmalcolm in Stratheden. On top of the Stratheden Group rocks are the younger strata of the Carboniferous period. These underlie the southern half of Fife. They are, divided into four major units that are, in ascending order, the Inverclyde, Strathclyde, Clackmannan and Coal Measures groups.

The Inverclyde Group, about 350 million years old, consists of two, largely river-lain sandstone dominated formations. They are separated by a formation consisting mainly of mudstone that was deposited on a semi-arid coastal plain. This group is limited in outcrop to the northern fringes of the Lomond and Cleish hills and to the Balcomie – Cambo area of east Fife. The overlying Strathclyde Group is more than 330 million years old. It heralds the first appearance of coal, ironstone and oil shale seams in the Fife rock record. Overall, this group was laid down in tropical rivers, deltas, swamps and lakes. Oil shales, formed by major algal blooms were formerly mined at Binnend, Burntisland and in east Fife. The Lochty Back and Fore coals were thick seams formerly mined in east Fife. These seams were once luxuriant tropical forests transformed in death first to peat and with deep burial and heat to coal. Freshwater limestones are also developed and one was formerly mined at Newbigging, Burntisland. Sandstones from Cullalo, Newbigging etc were formerly important as world producers of yellow, white and grey building stones. This activity has recently resumed on a minor scale. The group is widely distributed in Fife cropping out in east Fife, the Lomond and Cleish hills, in the hills behind Burntisland and in the Dunfermline – Rosyth area.

Behind Burntisland, a thick succession of lava flows (Bathgate Group) mainly replaces the sedimentary rocks of the Strathclyde Group. Orrock Quarry is located in lava deposits which provides aggregates and has provided the raw material for rock wool (used for insulation).

The Lower Limestone Formation at the base of the Clackmannan Group was mainly laid down in shallow tropical seas into which rivers flowed forming deltas. Limestones in the formation have been worked for centuries both by mining and quarrying. The last mine at Cults closed as the deep mining of coal collapsed. This was partly because a product, lime powder, was no longer required for damping down coal dust. Mudstones have also been quarried at Brotus by Cults and Lassodie and used for brick manufacture but this industry has just been 'mothballed'. The outcrop of the Lower Limestone Formation extends from the old mine at Charlestown northwards by Roscobie mine to Scaurhill at the western end of the Cleish Hills. It also forms a looping outcrop from Dunfermline around Calais and South Fod and northwards around the hills behind Burntisland to the coast at Seafield. Other outcrops occur in the Lomonds, at Cults - Skelpie and in east Fife.

The remaining overlying strata of the Clackmannan Group are divided into the Limestone Coal, Upper Limestone and Passage formations with rich coal and some fireclay resources. The Limestone Coal Formation contains major coal deposits. It crops out in a strip of Fife extending west from Kirkcaldy to Comrie with northern extensions towards Kelty and Saline. It is also known in north and east Fife. The Upper Limestone Formation also contains some coals. The Passage Formation contained an unusually thick, rich pocket of coal in the former Westfield surface mine near Ballingry and potentially workable coal deposits remain. Another feature of this formation is the presence of extensive resources of silica rich sandstones that are quarried at Burrowine Moor and Devilla to supply the glass making industry. Volcanic ashes and lava flows are locally interbedded with the Clackmannan Group succession for example in the Saline Hills in west Fife.

The Coal Measures Group extend some way inland from the coastal area between Dysart and Lower Largo to Thornton. A small area also occurs at the Westfield site. They also are found in the Kincardine upon Forth area in the west. The Lower and Middle Coal Measures contain coals of economic interest that are currently exploited by surface mining methods. Volcanic rocks are rare in this group except under the Firth of Forth. Wellesley Colliery closed because of unexpectedly thin coals occurring with thick deposits of volcanic ashes. The Upper Coal Measures have never been of much economic importance but beds of ochre were once of local interest.

Intrusive basalts and dolerites, in the form of dykes and sills, occur in many areas. These rocks are mainly between 300 and 320 million years old. The thick dolerite sills have been major producers of hardrock aggregate as at The Goathill, Cruicks and Craigs quarries. Generally the intrusive rocks are of better quality compared to lava flows for construction purposes. Intrusive basaltic tuffs and agglomerates also occur as plugs in volcanic pipes and necks. Examples of volcanic vents include East and West Lomond, the Hill of Beath and the former Langside Quarry at Kennoway. Some of the vents in east Fife are possibly of Permian age (280 million years old).

Earth movements, at the end of the Carboniferous period, folded and faulted all of Fife's rocks and caused extensive weathering and erosion of the land. As a result, there are no rocks preserved in Fife younger than Permian.

Superficial Deposits

The surface expression of the solid geology of Fife in the landscape has been extensively modified by the advance and retreat of ice sheets during the last two million years. Since the end of the last ice age in Fife, about 13,000 years ago, significant generally downward changes in relative sea level have made their mark in the coastal zone in the form of deposits of sand and gravel and clay suitable for brick and tile manufacture. The ice sheets, advancing in an easterly direction, eroded the softer

sedimentary rocks and smoothed and gouged the harder, upstanding igneous rocks. When retreating, the ice left behind extensive deposits of glacial boulder clay blanketing the rock surface and infilling valleys and hollows.

Melt water streams issuing from the last ice sheet deposited fluvioglacial sand and gravel. In east Fife, there are two major deposits, in the Ladybank/Collessie area and in the Wormit/Leuchars area, both of which have been extensively worked. These deposits occur in a variety of geomorphological features such as eskers, kames, outwash fans, raised beaches and sand dunes. There is a long history of sand and gravel extraction in northeast Fife. In central Fife more localised deposits of sand and gravel occur in the Leven valley, where they are worked near Leslie.

Overlying deposits include peat and lake clays. Peat accumulation has taken place in hollows and on hills. Most of the larger bogs and mosses, have however, been designated as Sites of Special Scientific Interest.

APPENDIX 2: **MINERALS**

Coal is formed by the accumulation, in layers, of organic carbonaceous material. The starting point for coal formation is usually peat or similar material. By a process of compaction and slight heating peat is converted into lignite and then black coal. Coal mining is one of the oldest traditional industries in Fife. Most of this activity was and still is concentrated in West and Mid Fife. Coal in Scotland occurs as distinct seams interbedded with layered sedimentary deposits.

Coalbed methane is a gas which occurs naturally in coal seams.

Fireclay is used in the manufacture of bricks and other refractory products. It is usually found in association with coal seams.

Hard (igneous) rock is formed by volcanic activity. It forms with the cooling and crystallisation of molten material called magma. The rate of cooling determines the crystalline properties of the rock. Intrusive rocks, in the form of dykes and sills, which have cooled slowly at depth are generally coarse grained and have large crystals in their structure, while extrusive rocks, such as lavas, which have cooled at or near the surface are generally fine grained. Lavas and intrusive rocks are widespread in central Scotland and being harder and more resistant to weathering than sedimentary rocks form most of the hills and rocky outcrops. Typical igneous rocks are andesite, basalt and dolerite. Their particular properties render them suitable for a range of uses, principally road-making aggregate, concreting aggregate, rail ballast and rock armour.

Limestone is a sedimentary rock composed of the mineral calcite. It has three principal uses largely dependent upon its composition and physical properties.

- As a source of chemicals, principally lime which is used in agriculture, glass and rock wool manufacture.
- Mixed and heated with mudstone or shale, limestone forms cement.
- Constructional uses: harder limestones may be used for construction purposes or related uses such as crushed rock aggregate, asphalt fillers and roadstone.

Mudstone is usually interleafed with coal beds and is often obtained from surface coal mining sites. It is a raw material used in brick making.

Oil and Gas. Oil is usually found in association with natural gas. Although not totally understood, the origin of oil is probably organic in origin i.e. produced by the decay of animals and plants. Gas, including methane is found in coal and shale. Most occurrences of such gas are to be found in West and Mid Fife. Technology is now being developed to extract such gas commercially. The main processes, which are quite separate, are coal bed methane, shale gas, and underground coal gasification.

Peat is a partially decomposed mass of vegetation which has grown in a shallow lake or marsh. In the past, peat was used for fuel and animal bedding. Now however, it is used almost entirely for horticultural purposes.

Sandstone is a sedimentary rock which has accumulated either by wind action or by deposition in water. It has traditionally been worked for use as building stone (also known as dimension stone). It is used for new buildings, architectural cladding and restoration of historic buildings

Sand and gravel is produced by natural weathering of rock and is deposited by the actions of glaciers, rivers and wind. Most of these resources are located in East Fife. They have a range of uses dependent on various factors, principally the origin of the deposit and the size, composition and degree of weathering of the component parts. It is a valuable bulk material which is used as a key ingredient in a number of construction products.

Silica sand is a specialist sand resource, which has a variety of uses including glass making, as moulds in iron and steel foundries and in the manufacture of ceramics. It is associated with sandstones of the Carboniferous period.

Shale is a fine grained sedimentary rock that forms from the compaction of silt and mud. It is similar to mudstones but is distinguished from them because it is laminated and fissile.

Secondary materials are recycled from waste and demolition materials. They can be used as an alternative to naturally occurring minerals.

APPENDIX 3: DEVELOPMENT PLAN MINERALS POLICIES

SESplan (June 2013)

Policy 4: Minerals

Local Development Plans will:

A) Safeguard mineral resources from sterilisation where the deposits are of a sufficient scale or quality to be of potential commercial interest and their extraction is technically feasible and may be carried out in a way that is environmentally and socially acceptable. The need for safeguarding should be considered alongside the development strategy for the area;

B) Identify areas of search for aggregate minerals and coal, or where appropriate, specific sites, having regard to national guidance and other environmental objectives of the Strategic Development Plan;

C) Set out the criteria to be addressed when assessing individual proposals, including restoration and enhancement; and

D) Support and encourage the use of secondary and recycled aggregates.

TAYplan (June 2012)

Policy 3: Managing TAYplan's Assets

Using the location priorities set out in Policy 1 of this Plan to:

- Safeguard minerals deposits of economic importance and land for a minimum of 10 years supply of construction aggregates at all times in all market areas; and,
- Protect prime agricultural land, new and existing forestry areas, and carbon rich soils (where identified) where the advantages of development do not outweigh the loss of productive land.

Note: the above extract of TAYplan Policy 3 is not the complete policy, only that part relating to minerals and carbon rich soils.

Minerals

Council Plan 2017 links: Growing a vibrant economy. | Improving quality of life in local communities. | Promoting a sustainable society.

Outcome – The environmental and cumulative impacts of minerals extraction, including commercial peat extraction will be closely managed so that a balance is achieved between the safeguarding and responsible extraction of workable minerals and environmental protection. The economic or conservation value of minerals is recognised and their working and use is within acceptable environmental limits.

Policy 15 – Minerals

Development proposals for the extraction of minerals, coal bed methane, shale gas, or coal bed gasification, including associated infrastructure, will only be supported where they:

1. **do not result in an unacceptable impact on communities, the environment, or the economy;**
2. **provide for restoration and aftercare to a high standard, including the provision of an appropriate guarantee, such as bonds or other financial guarantees; and**
3. **in the case of aggregates, facilitate a minimum 10 year landbank of permitted reserves for construction aggregates at all times in all market areas.**

Consideration will also be given to the benefits the development may bring to the local or national economy. More detailed advice is contained in the Minerals Supplementary Guidance and attention is drawn to the restrictions on peat extraction which reflect Scottish Planning Policy (see also Policy 13 Natural Environment and Access).

Minerals sterilisation

Minerals that are, or may be, of economic or conservation value will be protected from development which could prevent or jeopardise their extraction. Prior extraction of minerals should be facilitated and encouraged for any substantial new development sites, in line with national policy, with the aim of preventing sterilisation of minerals.

Extension and restoration of mineral workings

Proposals for mineral working will be supported if they will result in the restoration of previously worked areas where the earlier

restoration has not been completed to a high standard, or which have left a legacy of ground instability. Extensions to existing quarries will be preferred to establishing new quarries.

An appropriate buffer zone between site boundaries and settlements must be provided to safeguard the amenity of houses and occupied properties.

Areas of search

All minerals applications will be considered within the context of the areas of search for surface coal, and sand and gravel as highlighted in the accompanying mapping.

Unconventional Gas

The accompanying mapping shows areas covered by Petroleum Exploration and Development Licences (PEDL).

Applying Policy 15 – Minerals

1. *Scottish Planning Policy* notes that planning should safeguard mineral resources and facilitate their responsible use. This reflects the importance of minerals to our everyday lives, from their use in construction to providing energy as part of a mix of energy sources. Plans should also support the maintenance of a landbank of permitted reserves for construction aggregates of at least 10 years at all times in all market areas through the identification of areas of search.

2. Mineral extraction may include hard rock, aggregates, or unconventional gas. Unconventional gas includes coalbed methane and shale gas extraction. This policy will apply to all of these.

3. The extraction of minerals will only be permitted where impacts on local communities and the environment can be effectively managed or mitigated. In applying this policy, the Council will have regard to the impact of individual minerals proposals and the cumulative impact of multiple extraction sites, including these outwith but close to Fife's boundaries.

4. An appropriate guarantee must be provided, such as a bond, to provide for restoration and aftercare. Restoration, including progressive restoration, should be carried out to high standards and details must be submitted and agreed prior to the consideration of development proposals.

5. An appropriate buffer zone between site boundaries and settlements must be provided. These buffers will take account of the specific circumstances of the proposal, including the location, duration, method of working, topography, and characteristics of the method(s) of working – all as advocated by *Scottish Planning Policy*. For surface coal this will normally be 500 metres, unless there are local circumstances which justify otherwise.

6. Arrangements will be in place to review mineral consents every 15 years. Consents will be monitored as appropriate.

7. In areas where there has been a long history of minerals working, previous methods of extraction and restoration may not meet the standards currently sought. In these cases, there may be scope to allow further extraction if the proposal is acceptable in itself and it can lead to a better restoration of the site. New working can also help to stabilise ground conditions to the benefit of future the use of these areas.

<u>Areas of Search</u>

8. All applications for surface coal and sand and gravel extraction will be considered within the context of the areas of search highlighted in the accompanying mapping. No area of search has been designated for hard rock due to its fragmented spatial distribution throughout Fife. It is important to note that these maps are only indicative and must be viewed in conjunction with the Plan's policies and text rather than in isolation.

Unconventional Gas

9. Underground coal gasification (UCG) is a long established technology but not widely applied. UCG should not be confused with other 'unconventional' techniques for the recovery of fossil fuels such as shale gas fracking, which is a newer and distinct technology ,or the extraction of coal bed methane.

10. An array of planning and regulatory measures apply to potential gas developments. These will involve the U.K. Government's Department of Energy and Climate Change, the Scottish Environment Protection Agency, the Health and Safety Executive, the Coal Authority (where coal measures are a factor), and Fife Council as planning authority.

11. The UK government published *Planning Practice Guidance for Onshore Oil and Gas* in July 2013. It gives advice on planning issues associated with the three phases of extraction of hydrocarbons: exploration, testing and production. Areas covered by a Petroleum Exploration and Development Licence (PEDL) are shown in the accompanying mapping.

12. The *Minerals Supplementary Guidance* provides further detail on the issues that development proposals involving minerals, coal bed methane, shale gas or the onshore infrastructure associated with coalbed gasification must address.

APPENDIX 4: CONSTRAINTS FACTORS NOT MAPPED

Settlement Buffer Zones: SPP advises that in relation to surface coal mining and related minerals, a general distance of 500m should be maintained between sites and the edge of communities, although this can vary depending on local circumstances. In terms of other minerals a standard buffer zone should not be imposed as they will need to take account of local circumstances. This is reflected in the Local Development Plan. Settlement Buffer Zones do not therefore involve rigid fixed distances, although for the purpose of mapping a 500m distance is shown.

Scheduled Ancient Monuments and Non Statutory Register Sites: development which would have an adverse effect on a scheduled monument or the integrity of its setting should not be permitted unless there are exceptional circumstances.

Sites included in or proposed for inclusion in the Inventory of Gardens and Designed Landscapes: national guidance is provided by SPP. Such sites should be afforded a high level of protection.

Archaeological Sites and Areas of Regional Importance: SPP and FIFEplan provide the context. Such resources should be protected if feasible. Their significance of any impacts will be weighed against the merits of the development proposal in the determination of any planning application.

Listed Buildings and their settings: the context is set by SPP and FIFEplan. They and their settings are afforded a high level of protection, although development is not entirely precluded.

Regional Park: SPP promotes the protection of recreational sites in rural areas. A medium level of protection is therefore justified. Other designated sites such as SSSIs also occur in the Regional Park and these will be afforded other levels of protection.

Country Parks: SPP promotes the protection of recreational sites in rural areas. Country Parks are also covered by other designations. Therefore, whilst mineral extraction is not prohibited in Country Parks, a very robust justification would have to be made.

Prime agricultural land: The local development plan protects such land from irreversible development, befitting its status as a national resource. Development should not be permitted unless it is an essential component of the settlement strategy or is necessary to meet an established need. Minerals extraction may be acceptable where restoration proposals will return the land to its former status, or better.

Special Area of Conservation/Special Protection Area/RAMSAR sites and candidate sites: Scottish Planning Policy states that development which could have a significant effect on a Natura 2000 site (Special Areas of Conservation and Special Protection Areas) can only be permitted where an appropriate assessment has demonstrated that it will not adversely affect the integrity of the site; or there are no alternative solutions; and there are imperative reasons of overriding public interest, including those of a social or economic nature.

Site of Special Scientific Interest/National Nature Reserve: national guidance states that development should only be permitted:

- It will not adversely affect the integrity of the area or the qualities for which it has been designated, or
- Any such adverse effects are clearly outweighed by social, environmental or economic benefits of national importance.

Semi natural woodland: such habitats are of national importance, have been declining in extent and require protection.

Priority habitats and species: those habitats and species identified through the UK Biodiversity Action Plan, Scottish Biodiversity Strategy and List, and the Fife Biodiversity Action Plan.

Local Nature Reserves: these designated sites, which are of local importance will be afforded a medium level of protection due to their natural heritage, recreational and educational value. SPP advises that the level of protection afforded to such sites should not be as high as that given to sites of international or national importance. They have been afforded a medium level of protection.

Sites of Importance for Nature Conservation: Sites of local importance for nature heritage. These include Local Nature Conservation Sites, non statutory Wildlife Sites, and Local Geodiversity Sites.

Tree Preservation Orders (TPOs): trees are often very important elements of our landscapes and townscapes. Such areas are therefore afforded a high level of protection. This is not absolute however and exceptions may be acceptable for example in instances where the tree(s) are diseased or pose a safety risk.

Undeveloped Coast: development plans should protect the coastal environment. Development on the undeveloped coast will not be supported unless a set of criteria are met.

Local Landscape Areas: The Development Plan states that development proposed within a Local Landscape Area or outwith the boundary but which may impact upon the designated area, will only be permitted where it has no significant adverse effect on the landscape qualities of the area and/or its overall landscape integrity and setting. Proposals must demonstrate how the development would contribute to the conservation, restoration or enhancement of the Local Landscape Area and its associated landscape character and qualities.

Sensitive Landscapes: the basis for protection of such areas is contained in the Fife Landscape Character Assessment.

Green Belts: in a Fife context, Green Belt has only been designated for strategic areas requiring long term protection for at least 20 years. Their primary function is to preserve the character, landscape setting and identities of St Andrews and Dunfermline.

Areas at risk from flooding: Policy 11 of FIFEplan aims to protect areas at risk from flooding from development which would be adversely affected by or exacerbate such events. However this does not impose a total prohibition on development and there may be circumstances in which development would be acceptable.

Water catchment areas: the provision of an adequate and wholesome public water supply is a basic human need and therefore water catchment areas are afforded a high level of protection.

Cycle routes, disused rail lines and footpaths: these do not preclude development, but for extractive development to take place, mitigating measures must be put in place prior to commencement.

Pipeline Consultation Zones: the siting of such installations is subject to planning controls, aimed at keeping these pipelines separated from new development, with which they may be incompatible from a healthy and safety perspective.