

Quarries and Ancillary Activities

Guidelines for Planning Authorities

April, 2004

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Chapter 1: Introduction

1.1 Purpose and status of guidelines

These Guidelines are intended to:

- offer guidance to planning authorities on planning for the quarrying industry through the development plan and determining applications for planning permission for quarrying and ancillary activities (Part A);
- be a practical guide to the implementation of section 261 of the Planning and Development Act, 2000 (Part B).

Aggregates are a significant natural resource. The extractive industries make an important contribution to economic development in Ireland. However, the operation of quarries can give rise to land use and environmental issues which require to be mitigated and controlled through the planning system. These Guidelines seek to identify those issues and to suggest best practice in dealing with them. It is important that planning authorities should recognise that quarries (including sand-and-gravel pits) vary greatly in size, with varying environmental impacts, and that the planning response to proposed developments should be tailored accordingly.

These Guidelines are published by the Minister for the Environment, Heritage and Local Government under section 28 of the Planning and Development Act, 2000 which requires both planning authorities and An Bord Pleanála to have regard to them in the performance of their functions. Planning authorities will also be required under section 28 to make copies of the Guidelines available for inspection by members of the public.

While the Guidelines are thus primarily addressed to statutory planning bodies, it is intended that they will be of assistance to owners and operators of quarries to which section 261 of the Act applies.

It should be noted that these planning guidelines do not apply to certain mineral workings as defined in the Minerals Development Acts. Underground workings bring about significantly different

issues, and in any event an Integrated Pollution Control Licence (see Chapter 4, paragraph 8 below) will usually be required for such minerals and the more extensive processing associated with them.

1.2 Section 261 of the Planning and Development Act, 2000

Many of the quarries operating today have a history of operation from before the introduction of the Local Government (Planning and Development) Act, 1963 on 1 October 1964, whether permanently or on a seasonal or occasional basis. The recent growth in the economy has led to a rise in the number of quarries being worked on a permanent basis and an expansion in the size and activity of these quarries. Local concerns about the impact of quarries' operations on communities have as a consequence increased. In addition, quarries which never received planning permission or which received permission many years ago may be operating to older standards of environmental control than modern quarries, other than through voluntary compliance with the industry's codes of practice. However, given their authorised status, it has been difficult to require such quarries to seek consent for any expansion in their activities.

Section 261 of the Planning and Development Act, 2000 introduces a new system of once-off registration for all quarries. Only those for which planning permission was granted in the 5 years before section 261 became operative are excluded. The registration system has two purposes:

- to give a 'snapshot' of the current use of land for quarrying. This will ensure that local authorities have basic information about a quarry's operations. Planning permission may then be required for any proposed expansion or intensification of its operations;
- where necessary, to permit the introduction of new or modified controls on the operation of certain quarries. These controls may be imposed in two ways. Quarries may have to comply with certain new or modified conditions on their operation. Certain quarries operating since before 1 October 1964 which may have significant effects on the environment, may have to seek planning permission for their continued

operation and submit an Environmental Impact Statement. The same sort of considerations will apply to these applications for permission, as apply to all applications for permission for quarries. (see **Chapters 3** and **4** of these Guidelines).

Chapter 5 of these Guidelines is a guide to the operation of the registration procedure.

1.3 Economic importance of quarries

Construction aggregates and dimension stone (see **Appendix A** for glossary of technical terms) are basic materials for the construction industry. Aggregates are an essential input to the construction industry, which is worth about €20 billion to the Irish economy each year. Over 100 million tonnes are used annually in the manufacture of concrete products, road materials, and other ancillary products. For example, it is estimated that an average of over 300 tonnes of aggregates are consumed in the construction of an ordinary single house. About 70% of aggregates is obtained from hard rock quarries by drilling and blasting, and about 30% is extracted by direct digging from sand and gravel pits. In addition, Irish dimension stone operators produce approximately 250,000 tonnes of cut stone annually, about half of which is exported to Europe.

According to industry sources, there are about 400 pits and quarries in Ireland, of which about one-third are major operating quarries; many of the smaller sites operate on an occasional or low-output basis. There are about 100 concrete block plants and 200 readymix concrete plants. Employment in the concrete industry exceeds 10,000. Building output grew by over 33% between 1998 and 2002 or by an average of 6.5% per annum. The annual growth rate moderated to 3% in 2002 and is predicted to decline by around 1% in 2003. The ESRI Medium Term Review, July 2003, predicts modest growth in output of 0.2% and 3.4% in 2004 and 2005 respectively.

Record numbers of houses have been built each year since 1997. The **National Spatial Strategy** (2002) notes that Ireland's housing stock per thousand of population is still the lowest in the EU at 327 housing units per thousand population as compared to 435 per thousand in the UK and a European average of 450 per thousand. The NSS indicates that it has been estimated that it will

be necessary to provide some 500,000 additional dwellings to meet likely demand in the period up to 2010. In addition, the **National Development Plan 2000-2006** contains construction projects with a total value of more than €28 billion (1999 prices). The medium term outlook, therefore, is for a sustained level of demand for aggregates to facilitate the provision of the infrastructure required to support continuing economic and social development, and to maintain Ireland's international competitiveness as a location for attracting inward foreign investment in the manufacturing and services sectors.

By their nature, aggregates can only be worked where they occur. Sand and stone have a low value-to-weight ratio, and therefore it is generally neither economically nor environmentally sustainable to transport them any great distance to their market due to increased transport costs. Many pits and quarries tend to be located within 25 km of urban areas, where most construction takes place.

According to the **Strategic Planning Guidelines for the Greater Dublin Area** (1999), which assumed a high in-migration scenario, there could be a need for between 65 and 80 million tonnes of aggregates in the period up to 2011 to meet housing demand alone, with additional demand arising from the construction of other buildings and infrastructure.

The Minister for the Environment, Heritage and Local Government published a policy statement "**Preventing and Recycling Waste – Delivering Change**" (March 2002) which calls for the re-use or recycling of 50% of Construction and Demolition (C and D) waste by 2003 and 85% by 2013. To achieve these objectives, the National Construction and Demolition Council was established in June 2002. Concrete is generally most suitable for recycling, having a wide range of potential uses. There are also environmentally friendly cement substitutes available on the market which reduce the need for quarrying aggregates. These products produce considerably less greenhouse emissions than ordinary Portland cement, and the greater use of such products in future will assist in meeting Ireland's commitments under the Kyoto Protocol. It is possible that offshore (sea bed) aggregates could become an economically viable source in the future. Careful consideration and planning in relation to the likely impact on the marine environment would, of course, be required.

However, there will be a continuing need for some new or expanded aggregate quarrying operations on land to meet regional and local requirements. There is thus a need to identify and protect aggregate resource areas through the planning system, to ensure an adequate supply of aggregates to meet the likely scale of future demand (see also **Chapter 2** in relation to the role of development plans), while at the same time protecting Ireland's natural and cultural heritage.

1.4 Environmental impacts

The development of quarries, particularly on a scale or in a location that would necessitate environmental impact assessment, has the potential to create environmental impacts. These potential impacts, which are considered in more detail in **Chapter 3**, include noise, vibration, dust, effects on the amount and quality of water, lowering of the water table, effects on the natural heritage, the cultural heritage, landscape, traffic and waste materials. These Guidelines are intended to help planning authorities to assess the range of likely environmental effects, and to propose appropriate mitigation measures, particularly at the pre-application consultation stage.

It should also be borne in mind that aggregates are a finite resource, and must be used sustainably. These Guidelines are also intended to assist planning authorities in framing suitable development plan policies (see **Chapter 2**).

1.5 Community consultation

These Guidelines are necessarily based on statutory processes under the Planning Act, and thus tend to focus on the respective roles of quarry owners/operators on the one hand and of planning authorities on the other.

However, the planning system allows third parties – especially those most affected by proposed developments – to make an input at both planning application and planning appeal stages. If the development is permitted and proceeds, its day-to-day operations will affect the lives of adjoining communities, perhaps for many years. Aggregate workings can bring jobs and economic prosperity to the area, but they can also arouse environmental concerns. It is important, therefore, that quarry owners and operators understand these concerns and seek to address them from the

outset in an open and accessible way. Consultation helps local people to understand how the proposed development will affect them, and how the developer will operate to the highest possible environmental standards. Adoption of a formal “good neighbour” policy by quarry owners and operators is essential to win the support of the community for the continued operation or expansion of existing quarries, and for any future plans for the development of new quarries.

Practical ways of building good relationships with the local community include:

- Consultation with the local community at the pre-application stage;
- Giving details of a proposed planning application prior to lodgement and making copies of the non-technical summary of any Environmental Impact Statement freely available locally;
- Appointing a specific staff member to deal with queries and complaints from neighbours. All complaints should be logged and followed up. Larger quarry developments should consider the establishment of Environmental Monitoring Committees, especially where there are likely to be significant effects on local communities arising from the quarry and/or ancillary processing facilities;
- Ensuring that all environmental monitoring data is made available to local people at regular intervals (e.g. through the local planning authority offices) and that any divergences from performance standards should be fully explained, together with any necessary preventative or remedial measures.

Part A

Chapter 2: Development plan policies in relation to quarries

2.1 General

General advice on the contents of development plans is contained in the Department's **Consultation Draft Guidelines on Development Plans** (to be published). Attention is drawn to the need for coherence and integration in the policies and specific objectives in plans, particularly in relation to development control objectives.

2.2 Planning and Development Act, 2000

The Act contains both mandatory and discretionary development plan objectives. Mandatory objectives (section 10) of most relevance to quarries include:

- The conservation and protection of the environment including, in particular, the archaeological and natural heritage and the conservation and protection of European sites and any other sites (such as Natural Heritage Areas - NHAs) which may be prescribed;
- The preservation of the character of the landscape where and to the extent that, in the opinion of the planning authority, the proper planning and sustainable development of the area requires it, including the preservation of views and prospects and the amenities of places and features of natural beauty or interest.

Relevant discretionary objectives in the First Schedule of the Act include:

- Regulating, promoting or controlling the exploitation of natural resources;
- Protecting and preserving the quality of the environment, including the prevention, limitation, elimination, abatement or reduction of environmental pollution and the protection of waters, groundwater, the seashore and the atmosphere;
- Securing the reduction or prevention of noise emissions or vibrations;
- Preventing, remedying or removing injury to amenities arising from the ruinous or neglected condition of any structure or from the objectionable or neglected condition of any land.

2.3 Development plan aims and strategy

A key task in drafting the written statement is to identify the aims of the plan and to set out a clear and relevant strategy for their achievement. In an area containing significant aggregate resources, the plan should acknowledge their economic value, which may be of national or regional importance. Since aggregates can only be worked where they occur, priority should be given to identifying the location of major deposits, and to including a commitment to safeguard valuable unworked deposits for future extraction. This does not imply a blanket ban on other forms of development, but consideration should be given to the fact that the proximity of major new housing developments, for example, could effectively sterilise such deposits. The Minerals Section of the Geological Survey of Ireland (GSI) maintains a National Quarry Database which lists active pits, mines and quarries. The GSI has begun developing a new mineral resources programme with the aim of producing a series of maps, including aggregate potential maps (a pilot project has commenced in co-operation with Donegal Co. Council).

The GSI also produces Groundwater Protection Schemes on a county-wide basis to map and protect the groundwater resources within that county, and to protect specific groundwater sources of drinking water supplies. The groundwater protection schemes are based on information provided by a suite of maps including:

- Groundwater protection zones, hydrogeological data;
- Aquifers;
- Vulnerability;
- Outcrop and depth to bedrock;
- Subsoils geology;
- Bedrock geology.

Regard should also be had to catchment management plans (under the EU Water Framework Directive) in relation to ground and surface water protection.

In areas where aggregate potential has been identified, objectives should be included in the development plan in relation to the protection of residential and natural amenities, the prevention of pollution and the safeguarding of aquifers and groundwater. Quarries will not be permissible in areas of high landscape value, on European sites, Natural Heritage Areas (NHAs), Nature Reserves or other areas of importance for the conservation of flora and fauna, or in areas of significant archaeological potential (all of which will be indicated on development plan maps), unless it can clearly be demonstrated that such quarries would not have significant adverse impacts on amenities or the environment.

2.4 Development control objectives

The following development control objectives will contribute towards the achievement of more sustainable aggregates development, by seeking to avoid or minimise adverse impacts on the environment:

- Aggregates applications (including an Environmental Impact Statement (EIS) where appropriate) should be properly documented – see model checklist in **Chapter 4, paragraph 3** below;
- Such applications should address not only the range of issues outlined in **Chapter 3**, but also any local issues, such as the protection of the bloodstock industry, for example;

- The planning authority may, as a matter of policy, attach planning conditions requiring the developer to lodge a financial bond to ensure satisfactory reinstatement of the site following the completion of extraction, or to pay a contribution towards the cost of upgrading or repairing the local road network;
- Heavy traffic should not be permitted on unsuitable roads and/or other specified roads, unless suitable upgrading or other improvements agreed with the planning authority are carried out.

Chapter 3: Environmental implications

3.1 Overview of environmental issues associated with quarries

There is a wide range of potential environmental effects caused by quarries which planning authorities need to consider when dealing with proposals for new development, or for significant expansion of existing extractive industries. Such impacts may arise during the development stage (e.g. earth stripping operations) or may endure throughout the life of the quarry, possibly over several decades. The impact can be permanent, even after closure and decommissioning, unless carefully planned rehabilitation is undertaken. Ancillary developments, such as concrete manufacturing, also may have significant impacts which need to be addressed at the outset, so that the cumulative effects from the site might be assessed.

It is recommended that planning authorities should familiarise themselves with evolving best environmental management practice as set out in Environmental Protection Agency (EPA) guidelines “Environmental Management in the Extractive Industry: Non-Scheduled Minerals” (see **Appendix B** for details).

The Irish Concrete Federation (ICF) has drawn up an Environmental Code for the aggregate and concrete product industries, to promote member awareness of, and commitment to, good environmental principles (see **Appendix B**).

The principal environmental impacts which tend to occur, and relevant possible mitigation measures, are set out below. (See **Appendix A** for a glossary of technical terms used in this and following chapters).

3.2 Noise and vibration

Extractive industries are associated with many noise-generating activities – removal of topsoil and overburden, excavation with machinery, drilling and blasting of rock, crushing and screening

of aggregates, transport of raw materials and finished products within the site and on public roads, etc.

Blasting (which occurs at quarries, but not in sand and gravel pits) can give rise to vibration, audible noise, flyrock and dust. The levels of vibration caused by blasting are well below those which can cause structural damage to properties. Nonetheless, vibration transmitted through the ground and pressure waves through the air (“air overpressure”) can shake buildings and people and may cause nuisance. Audible noise accompanies overpressure.

Noise can cause annoyance, nuisance, sleep disturbance and can also affect wildlife. Residential properties, schools, hospitals, nursing homes, churches, etc. are also noise-sensitive receptors.

Best practice/possible mitigation measures:

The nearer a site to noise-sensitive properties or areas, the more stringent should be the controls on noise emissions. There are several methods of noise control:

- Earth mounds erected around the site boundary can provide acoustic as well as visual screening. A buffer zone can be maintained between the excavation area and the site boundary; the width of the zone needs to be decided on a case-by-case basis, depending on such factors as the nature and scale of extraction and the settlement pattern in the vicinity. Soft ground (e.g. grassland and cultivated fields) attenuation can sometimes have a greater impact in reducing noise than barrier attenuation, especially if the ground supports sound-absorbing vegetation;
- Conveyor belts and crushing/screening equipment can be housed to provide acoustic screening. It is important that sound-reduction equipment fitted to machinery is used and maintained properly;
- Haul roads within the site should have as low a gradient as possible, and paving should be considered if practicable where noise-sensitive receptors are likely to be affected;
- For deep workings, quarry faces may provide a barrier, depending on the relative location of the quarry face and the noise-sensitive area or property;

- The professional control of drilling and blasting operations can ensure, through design of the layout of the workings, that blasts are directed away from sensitive neighbouring dwellings. Use of the “delayed” blasting technique, whereby the blast takes place in a series of timed small explosions rather than a single large blast, helps to minimise the vibration in the rock body;
- It is recommended that quarry operators provide advance notification of blasting to nearby residents, e.g. through written notices or by using warning sirens, or other locally-agreed arrangements.

Note:

These guidelines are not intended to deal with health and safety issues associated with blasting (such as flyrock) as these are the responsibility of the Health and Safety Authority (HSA). It is vital that quarry owners/operators comply with Health and Safety codes and with any recommendations for safety made by HSA Inspectors. The Health and Safety Act 1989, and the related Regulations on quarry operations are designed to protect those working in quarries, those visiting quarries, and members of the public in the immediate vicinity of quarries, who could be endangered by the operation of quarries. The ICF Environmental Code for the aggregate and concrete product industries, referred to above, also contains guidance on the safe operation of quarries.

3.3 Dust deposition/air quality

As in the case of noise, there are numerous sources of dust generation within quarries, including the stripping of topsoil, the excavation of sand and gravel, the crushing and screening of aggregates, ancillary activities such as concrete mixing, and the transport of sand, gravel and finished products (point emissions). Wind can carry dust particles well beyond the site boundaries, and fine materials from lorries can be deposited along public roads (fugitive emissions).

Residents living in proximity to quarries can potentially be affected by dust up to 0.5km from the source, although continual or severe concerns about dust are most likely to be experienced within about 100m of the dust source. The main potential impacts of dust are visual impacts, coating/soiling of property (including housing, washing, and cars), coating of vegetation, contamination of soils,

water pollution, change in plant species composition, loss of sensitive plant species, increased inputs of mineral nutrients and altered pH balances. Respirable particles, i.e. those less than 10 micrometers in diameter, have the potential to cause effects on human health, depending on exposure levels.

Some large diesel generators may require a permit under the Air Pollution Acts as an emission source.

Best practice/possible mitigation measures:

The first step is to try to prevent dust creation at source. Where practicable, earth stripping or moving should not be carried out in periods of dry and windy weather unless suitable mitigation measures are implemented, and dust should be prevented from escaping from enclosed equipment by means of filters or other appropriate means. As far as possible, dust-generating activities should be located away from dust-sensitive land uses. Such activities should be placed in areas where maximum protection can be obtained from topography, woodland or other features, or in areas where prevailing winds will blow dust away from sensitive areas/uses.

Mitigation measures include:

- Paving road surfaces within the site where a negative impact on a noise-sensitive receptor is likely;
- Water spraying of conveyors/conveyor transfer points, stockpiles and roads;
- Wheel washing of vehicles leaving the site, covering of fine dry loads or spraying of loads prior to exiting the site, and if necessary regular cleaning of public roads in the vicinity of the entrance;
- Appropriate maintenance of vehicles and machinery;
- Landscaped mounds on the periphery of the site and around storage areas.

Any fixed or mobile asphalt and tarmacadam plant constructed after 1987 requires a licence under the Air Pollution Act, 1987, where there are specific point air emissions.

3.4 Water supplies and groundwater

Groundwater is an important natural resource in Ireland, accounting for up to 25% of drinking water supplies nationally and up to 90% in rural areas.

The quantity, and physical and chemical quality, of surface waters and groundwaters may be affected by quarrying activities; flows can be increased or decreased and may be contaminated by runoff or dust from the quarry. The removal of topsoil, overburden and aggregates may affect the quality of water recharging of an aquifer, and excavation below the water table may lead to de-watering of adjacent watercourses and wells. (See also **Chapter 2, paragraph 3** in relation to groundwater data held by the Geological Survey of Ireland). Any existing Aquifer Protection Plan prepared by the local authority should be consulted.

“Wet working” of sand and gravel enables aggregates to be dredged from below the watertable without the need for de-watering.

Best practice/possible mitigation measures:

The key objectives are to protect existing surface watercourses and groundwater resources, and to optimise the requirements for water abstraction through best water management practice. The attention of planning authorities is again drawn to the maps of groundwater resources produced by the Geological Survey (see **Chapter 2, paragraph 3** above).

The relevant local authority, Fisheries Board and the Department of Environment, Heritage and Local Government (or Waterways Ireland, where appropriate) should be consulted about any likely alterations to existing surface watercourses, nearby river corridors, and any discharges/abstractions. All operators must comply with the requirements of the Water Pollution Acts, 1977-1990, and discharge licences obtained if necessary.

- A surface water quality baseline study may be required to assess water quality in adjacent surface watercourses. Similarly, it is necessary to define the hydrogeological regime around the quarry, to protect groundwater and the water supply to sensitive wetland systems or water-dependent habitats. The Institute of Geologists of Ireland recommends use of an appropriate “Source-Pathway-Target” model which

examines in turn the potential contamination source (“hazard”), the potential pathway for contamination, and the aquifer/groundwater sources (“targets”) which might be at risk from contamination.

- Where it is proposed to excavate below the water table, hydrogeological studies will be required to determine the likely affect on groundwater flows in the area, particularly in relation to wells on adjoining lands. Replacement wells or water supplies may have to be provided in the event of de-watering. A key design objective should be to plan the extent and depth of the workings to minimise any significant impact on groundwater resources and associated wetland features. Where there is the potential for reduction of base flow in streams (which can reduce their flow rate or even cause them to dry up altogether), stream augmentation should be considered, especially if there are people who benefit from the water downstream.
- An appropriate drainage system should be provided to minimise surface water run-off into the quarry workings. Where there are discharges of process water from quarry developments to surface watercourses, emission limits will be specified in the conditions of the discharge licence.
- Fuel tanks should be bunded and the drainage system of the fuelling area fitted with oil interceptors.
- Adequate sewage and stormwater treatment should be provided on site. There needs to be strict control of run-off from pits, quarries, spoil heaps, embankments and all other parts of sites, including access roads and wheel-wash facilities. Washing ponds (used to settle out the suspended solids from the aggregate washing process) should be carefully designed and operated to ensure that where practicable water is recycled and not discharged to watercourses. Another form of pond can be used both to facilitate the settlement of contaminants from the surface water run-off and also to ensure that stormwater run-off from the quarry is released through controlled discharge (i.e. the main volumes are retained until the flow has receded in the external watercourses or drains). Treated water can only be discharged under licence. A minimum 10-year return period is

recommended in relation to estimating the size of the pond for stormwater retention.

- Groundwater can be adversely affected by residues from explosives used in rock quarries. It is important that blast operatives ensure that all material is ignited; use of explosive slurries in karst or open fracture geology should be avoided.
- Erosion of soil (and any other material) should be limited by rapidly vegetating exposed areas, planting the surfaces of overburden and topsoil mounds, progressively restoring worked-out areas (where practical) and limiting the areas of topsoil/overburden stripping exposed at any one time. Adequate margins/buffer zones should be left around watercourses, river corridors and other sensitive areas; spoil heaps should be designed to be stable in periods of very wet weather.

3.5 Natural heritage

Quarry restoration can not only replace, but may even add to, the diversity of plants and wildlife. There are many options for restoration that enable land to be returned to an attractive and useful form. Site-specific restoration options should be evaluated as part of a site restoration plan. On the other hand, natural habitats can be damaged or lost entirely as a result of quarrying and extraction, and features such as hedgerows, stone walls and trees can be removed. Extraction and quarrying activities have the potential to impact on areas of valuable habitat, including (Habitats Directive) Annex I priority habitats such as limestone pavement, or orchid-rich grassland on eskers, where they are in the vicinity of such habitats. Habitats outside the quarry site can be impacted on indirectly by dust deposition, alteration to groundwater or surface water supplies, or as a result of run-off or siltation. In each case, it is imperative that the developer has given appropriate consideration to designated habitats, and has designed the workings in an environmentally sensitive manner.

Best practice/possible mitigation measures:

- An ecological baseline study should be carried out for every new extraction site, and for major extensions to existing sites. Ecologists should be involved in recommending appropriate mitigation measures for all phases of site development and operation, including restoration and after-care;

- Valuable habitats - which are not limited to designated conservation areas - should be preserved, and existing trees and hedgerows preserved to the greatest possible extent. Buffer zones can be provided around protected habitats or species. In some cases where valuable species cannot be retained in situ, conservation techniques such as relocation are the best means of mitigating the loss of the ecosystem. Consideration should be given to nests of protected birds during the breeding season, and quarry workings should be sensitive to their protection. The current working practice is to avoid a particular face where birds are seen to be nesting, but to continue extraction at another quarry face, until the chicks have fledged. The development of integrated wetland systems in conjunction with settling ponds (see **Chapter 3**, paragraph 4 above) could be of benefit to wildlife, in addition to increasing the protection for surface waters;
- The advice of the Department of Environment, Heritage and Local Government should be sought if it appears likely that the natural heritage is likely to be affected. However, extraction which could impact on designated conservation areas or sites will not generally be permitted (see **Chapter 2**, paragraph 3 above);
- Ground stability may need to be assessed as part of the planning application, if subsidence is likely due to surface excavation or underground development.

3.6 Landscape

Aggregate workings can remove parts of an existing landscape, such as a hill, or can introduce intrusive features, such as quarry faces or overburden mounds.

The development plan will indicate areas of high landscape quality, together with proposed geological Natural Heritage Areas, where quarrying will not normally be permitted. While Quaternary landscape features such as eskers and moraines comprise valuable sediments, they also represent non-renewable records of past climate and environmental change, and should be afforded some protection.

Best practice/possible mitigation measures:

The method of extraction, together with proposed restoration schemes, where properly planned and implemented, can minimise potential adverse impacts. Closure planning needs to take place before extraction starts (see also **Chapter 4, paragraph 2** on pre-application consultations).

- Where possible, existing landscape features (such as hills and trees) should be used to screen new extractive industry development. Native species of trees and shrubs can be planted to create food reserves for wildlife.
- Landscaped mounds, sometimes using topsoil and overburden from the aggregate workings, can be constructed to screen unsightly excavations, plant or storage ponds. Topsoil and subsoil should be stored separately after surface clearance to facilitate re-use and should also be seeded. Once work has started, it may be possible to move equipment and structures to well within the site and in some cases to locate plant in the deepest part, so as to lessen the visual, noise and dust nuisance impacts on adjoining properties. Suitable selection of colours and finishes for buildings and plant may help lessen the visual impact.
- Restoration is a process that will enable the worked-out quarry or sand pit to be used for its original purpose (such as agriculture) or adapted for a new use (such as amenity). Restoration includes design, initial landscaping works, soil spreading, final landform construction and aftercare. Aftercare is the work done after the replacement of the soil and includes fertilising, planting, construction of pathways, vegetation maintenance and an ongoing long-term commitment to the restored land. For successful restoration, steps must be taken at every stage, from design through operation to decommissioning of the facility, to ensure that restoration is integrated into the process.
- All proposed extractive development proposals must be accompanied by detailed restoration and after-care plans (although in the case of sites with a long working life, it may be appropriate to establish the need for such plans at the outset, while leaving the details to be agreed either on a

phased basis or towards the end of the extractive process). Progressive restoration should be employed where relevant and practicable, e.g. for sand and gravel pits.

- All buildings, plant, internal roads and paved areas should be removed when extraction is completed, unless otherwise agreed as part of the restoration plan. Depending on the terrain, the existing character of the area, and the nature and scale of the aggregates extraction, a variety of after-uses may be possible, including farming, forestry, recreation/amenity uses, nature conservation, or industry. Where the excavated area will be below the water table, a landscaped pond or lake may be possible. It is important that the acceptability of the proposed after-use be discussed with the planning authority at the pre-application stage. The aspirations of the local community should be taken into account in this regard.

3.7 Traffic impact

As indicated in **Chapter 1**, it is not generally feasible to transport sand and stone over long distances as a result of their low value-to-weight ratio. However even traffic within the site and on adjoining public roads can give rise to potential adverse effects. Heavy goods vehicles can cause noise, exhaust fumes, vibration and dust. Additional traffic generated by the development may cause congestion, particularly on rural roads in the vicinity of the site, and is a frequent source of concern to local residents.

Best practice/possible mitigation measures:

Some related mitigation measures (e.g. in relation to noise and dust) have been outlined above. Specific traffic-related measures may include:

- The improvement of sightlines at the site entrance;
- The strengthening/widening of local roads;
- Limiting HGV traffic to specified routes to and from the site;
- Queuing of vehicles with engines running at quarry sites in the early morning can impact on residential amenity, and must be avoided;

- Provision of footpaths/pedestrian refuges as well as passing bays for vehicles on rural roads in the vicinity of the site.

3.8 Cultural heritage

The anticipated growth in infrastructural provision in the State and new private sector development to meet the National Development Plan targets inevitably means that the quarry industry over the next 10 years will have considerable archaeological implications which must be addressed, given that aggregate resources can only be worked where they exist. Given that the archaeological heritage is a non-renewable resource the presence of known archaeological sites or the anticipation of potential sites must be an essential consideration in the selection of development sites, or major expansion of an existing site. Similar considerations apply in the case of protected structures in rural areas.

Best practice/possible mitigation measures:

A Code of Practice on the protection of the archaeological heritage has been drawn up between the Irish Concrete Federation (ICF) and the Department of Environment, Heritage and Local Government (formerly the Department of Arts, Heritage, Gaeltacht and the Islands) which should be consulted by planning authorities. It is therefore not the intention here to outline all the contents of the Code, but the key recommendations include:

- The employment of a project archaeologist who will work with the developer during site selection and project design, with a view to minimising the impact on known archaeological sites or areas of established significant archaeological potential;
- The archaeologist will ensure that the Archaeological Impact Assessment and any excavations are in keeping with the Department's best practice and policies.

If the development plan indicates the presence of any protected structures on or near the site (such as might be affected by blast vibrations, for instance), the planning officer or conservation officer of the relevant local authority, and the Department, should be consulted at the pre-application stage.

3.9 Waste management

Best practice is to eliminate or minimise the production of waste.

Best practice/possible mitigation measures:

- Unsuitable materials, such as clay/silt materials from settlement ponds, should be re-used and recycled as far as possible. Only authorised waste contractors should be employed for the collection, re-use and disposal of waste, including waste oils, batteries, tyres, domestic waste and scrap metal (in accordance the collection permit requirements of the waste management code);
- Recycling of concrete requires that it be crushed to smaller sizes in order to meet the grading requirements for specified materials and thereby be made suitable for beneficial re-use in various construction applications. Such crushing is similar to typical rock crushing in a quarry, and would thus be a compatible use. The availability of a choice of raw aggregates and construction-and-demolition (C and D) waste-derived aggregates for the purposes of new construction would also serve to limit the depletion of natural resources;
- Quarries should consider using inert C and D waste arisings, which do not have the potential to displace natural aggregates, for reinstatement and restoration purposes on the quarry site. Production residues may be useful for backfilling pits and quarries.

Quarry operators should ensure, by securing their site entrance and boundaries, that illegal fly-tipping and disposal of waste by third parties does not occur. In this regard it should be noted that in prosecution for illegal dumping under the Waste Management Acts, landowners can by reference to certain factors be deemed to have been complicit in the illegal dumping activity. In such circumstances, it would be up to the landowner to prove otherwise.

3.10 Environmental Management Systems (EMS)

A well-prepared Environmental Management System is a valuable tool to assist the operations managers of businesses to meet current and future environmental requirements and challenges. It is a

quality assurance system that can be used to measure a company's operations against environmental performance indicators, thereby helping the company to reach its environmental targets. A good EMS will integrate environmental management into a company's daily operations, long-term planning and other quality assurance systems. It should not be a layer of requirements and controls separate from the day-to-day activities of the site. The EMS should be appropriate to the scale of the operation.

Members of the Irish Concrete Federation have undertaken to set up good environmental procedures which will include the following provisions appropriate to the nature and size of the business:

- environmental policy statements, covering all activities that have a bearing on environmental and community concerns;
- environmental site appraisals and monitoring;
- regular company assessments of the effectiveness of environmental measures. Internal records will be maintained to provide documentary evidence of the reviews and operational achievements;
- management awareness and training.

The EU EMAS quality system is another alternative. Where sites have adopted the ISO 9000 standard, environmental issues may have been addressed as part of the quality system.

While it is a matter for each quarry operator to decide which approach is most appropriate in the circumstances, it is considered that some type of EMS will assist operators (particularly on larger sites) to comply with conditions attached to planning permissions (see **Chapter 4, paragraph 7** below) and other environmental licences, where an environmental monitoring programme forms part of the EMS. Where an Environmental Impact Statement has been prepared, it is likely that all the necessary information for a comprehensive EMS will have been generated.

Chapter 4: Assessment of planning applications and Environmental Impact Statements

4.1 Introduction

This chapter is intended to assist planning authorities when dealing with applications for quarries, and particularly those applications involving Environmental Impact Statements.

4.2 Pre-application consultations

Section 247 of the Planning and Development Act, 2000 makes provision for pre-application consultations with the planning authority and planning authorities should facilitate such consultations.

The developer of a proposed quarry should consider at the outset whether the development would be in accordance with the development plan for the area (see **Chapter 2, paragraph 3** above).

Owners and operators will be aware of the public concern which certain extractive industry developments can give rise to and should therefore take the earliest opportunity to explain their proposals to the planning authority and to ensure that all relevant planning and environmental issues are fully addressed in any subsequent planning application.

They should also discuss significant operational issues, such as working hours and likely traffic volumes, at the pre-application stage. Rehabilitation of the site after the end of extraction should also be considered at the design stage.

If an Environmental Impact Statement is required to be submitted (see **Chapter 4, paragraph 4** below), Section 173 enables a prospective applicant, when preparing an EIS, to request the planning authority to provide a written opinion (“scoping”) on the information to be contained in the EIS. Article 95 of the Planning

and Development Regulations, 2001 sets out the procedure for scoping requests. Best practice in EIS preparation includes consultation with all relevant parties, such as statutory consultees and the local community, to ensure that their concerns are identified and addressed in the EIS. The EPA has published advice on the preparation of Environmental Impact Statements (see **Appendix B**), which is of benefit to both applicants and planning authorities.

4.3 Submitting a planning application

If an EIS is not required, the developer should consider whether the following items are relevant to the proposed development and, if so, should ensure that they are adequately documented as part of the planning application. Failure to do so is likely to lead for a request from the planning authority for further information and thus to delay consideration of the application. (Applications for quarries must of course comply with all of the standard planning application requirements in relation to public notices, drawings, etc.).

Checklist:

- Map(s) showing (a) total site area, (b) area to be excavated, (c) any ancillary proposed development, (d) all dwellings or other development (within 1km of site);
- Description of the aggregate(s) to be extracted, method of extraction, any ancillary processes (such as crushing, concrete manufacture, etc.), equipment to be used, stockpiles, storage of soil and overburden, storage of waste materials, settling ponds;
- Total and annual tonnage of excavated aggregates, expected life of the excavation (see **Chapter 4, paragraph 9**, below), maximum extent and depth of working (drawings should include sections across the site, including hedgerows and other natural features), phasing programme;
- Description of development works (buildings, fixed and mobile plant, roads, fuel tanks, water supply and drainage, earth mounds, boundary treatment, etc.);
- Estimated traffic volumes;

- Likely environmental effects (see **Chapter 3**);
- Proposed mitigation measures (see **Chapter 3**);
- Restoration and after-care proposals (see **Chapter 3**);
- Proposed hours of operation.

An Integrated Pollution Control (IPC) Licence from the EPA is required for metal mining, for quarries associated with cement, lime and ceramic manufacture, and for the extraction of other minerals covered by the Minerals Development Acts which exceeds threshold levels as set out in the Protection of the Environment Act, 2003. Such a licence covers noise, emissions to air and water, and waste management.

4.4 Planning applications involving Environmental Impact Assessment of existing/proposed quarries

Planning applications for categories of development included in Schedule 5 of the Planning and Development Regulations, 2001 (S.I. no. 600) must be accompanied by an Environmental Impact Statement (EIS). Categories relevant to the extractive industry include:

Part 1,	class 19	Quarries and open-cast mining where the surface of the site exceeds 25 hectares;
Part 2,	class 2	(b) Extraction of stone, gravel, sand or clay, where the area of extraction would be greater than 5 hectares;
		(c) All extraction of minerals within the meaning of the Minerals Development Acts, 1940 to 1999;
Part 2,	class 5	(b) All installations for the manufacture of cement.

However, certain “sub-threshold developments”, i.e. developments of a type (such as those listed above) set out in Schedule 5 which do not exceed the quantity, area or other limit specified in that Schedule in respect of the relevant class of development, may require an EIS if the planning authority (or An Bord Pleanála on appeal) considers that the development would be likely to have significant effects on the environment. Where a planning application for sub-threshold development is not accompanied by an EIS and the development would be located on or in one of the sites/areas listed in Article 103 of the 2001 Regulations, such as a European site or a natural heritage area, the planning authority must decide whether the development would or would not be likely to have significant environmental effects on such sites or areas. In making such a decision, the planning authority shall have regard to the criteria set out in Schedule 7 of the Regulations. Such criteria include (*inter alia*):

- the size of the proposed development;
- the cumulation with other proposed development;
- the production of waste and
- pollution and nuisances.

In assessing the environmental effects in sub-threshold cases, the planning authority should have regard to the range of issues set out in the previous chapter, such as noise, dust, traffic, etc. and to the guidance **Environmental Impact Assessment (EIA) – Guidance for Consent Authorities regarding Sub-threshold Development** issued by this Department in September 2003.

Both developers and planning authorities should have regard to the EPA’s **Advice Notes on Current Practice in the Preparation of Environmental Impact Statements**. These Advice Notes are designed to accompany the **Guidelines on the Information to be contained in Environmental Impact Statements**, also published by the EPA. Project type 17 in the Advice Notes deals with mineral extraction (only the advice relating to minerals won by surface extraction are relevant in this context), and Project type 18 deals with quarries and open-cast mining of stone, gravel sand or clay. Headings include:

- Project description (construction, operation, decommissioning, growth, associated developments);

- Environmental effects (human beings, flora, etc.);
- Possible mitigation options.

The Institute of Geologists of Ireland has produced a guide in relation to geology in Environmental Impact Statements, which elaborates on the geological issues for each topic (human beings, soils, etc.) under the headings of existing environment, likely significant impacts, and mitigation measures (see **Appendix B**).

4.5 Requirements of section 261

In addition to the above requirements, section 261 of the Act stipulates that a planning application and an EIS will be required for the continued operation of a quarry which has been registered in accordance with this section where:

- (a) the extracted area of the quarry is greater than 5 hectares, or is situated on a European site, or any area designated in the development plan for the conservation and protection of the environment (including, in particular, the archaeological and natural heritage), or land to which an order under section 15, 16 or 17 of the Wildlife Act 1976 applies and
- (b) the quarry commenced operation before 1 October 1964 and
- (c) its continued operation would be likely to have significant effects on the environment, having regard to the criteria set out in Schedule 7 of the Planning and Development Regulations 2001.

In such cases, section 261(7)(a) prohibits a planning authority from imposing conditions under section 261(6). Instead, the authority shall, not later than one year after registration of the quarry, issue a notice to the owner or operator requiring the submission of a planning application and EIS within 6 months from the date of service of the notice, or such other period as may be agreed with the authority. The authority, or the Board on appeal, shall, in considering such an application, have regard to the existing use of the land as a quarry.

4.6 Assessment of planning applications and of Environmental Impact Statements

The contents of an EIS must comply with the requirements of Article 94 and Schedule 6 of the 2001 Regulations, notably:

- (a) A description of the proposed development comprising information on the site, design and size of the proposed development;
- (b) A description of the measures envisaged in order to avoid, reduce and if possible remedy significant adverse effects;
- (c) The data required to identify and assess the main effects which the proposed development is likely to have on the environment;
- (d) An outline of the main alternatives studied by the developer and an indication of the main reasons for his or her choice, taking into account the effects on the environment. For the purposes of the Regulations alternatives may be described at three levels: (i) Locations, (ii) Designs and (iii) Processes.

Article 108 requires a planning authority to consider whether an EIS complies with article 94 or, where the authority gave a written “scoping” opinion under article 95, whether the EIS complies with that opinion. This Department’s Guidance Notes on the 2001 Regulations advise that “adequacy” of an EIS involves both the contents of the EIS (in terms of compliance with the statutory requirements) and the quality of the information supplied. Where an EIS is deemed inadequate for any of these reasons, further information must be sought.

If the planning application does not require to be accompanied by an EIS, the planning authority should ensure that all relevant information concerning the development has been submitted (see **paragraph 4.3** above).

In assessing the application, the planning authority, apart from having regard to the relevant provisions of the development plan and any conservation designations, needs to determine whether any likely significant adverse impacts on the environment can be adequately controlled or mitigated, either as proposed by the

developer or by means of planning conditions. Otherwise, planning permission should be refused.

4.7 Possible planning conditions

The following list of suggested planning conditions is offered for the guidance only of planning authorities; the particular circumstances of each proposed development will need to be carefully considered in deciding the appropriate drafting of a condition.

Certain basic criteria apply to all planning conditions, i.e. conditions should be necessary, relevant to planning, relevant to the proposed development, precise, enforceable and reasonable.

As a general principle, measurable performance requirements are often the ideal basis for planning conditions. Such conditions make it clear to developers what is expected of them and leave them to decide the most cost-effective way of meeting those criteria, while allowing the outcomes to be monitored (see control of noise, below, for example). In this connection, the EU has recommended minimum criteria for environmental inspections in Member States, including both routine (planned) and non-routine (investigative) inspections (see reference in **Appendix B**).

- (a) **Implementation of mitigation measures:** The development shall be carried out in accordance with plans and particulars submitted in the planning application (and EIS, if appropriate). In particular, the developer shall ensure that all proposed environmental mitigation measures are implemented, save as may be required by other conditions attached to this permission.
- (b) **Times of operation:** The duration of quarrying operations (other than blasting, which needs separate controls – see (d) below) may require to be controlled in order to protect the amenities of residential properties in the area. It is recommended that normal operations should be confined to the hours between 07.00 and 18.00, Monday to Friday inclusive (excluding Bank Holidays) or as may be agreed with the planning authority, and between 07.00 and 14.00 on Saturdays, with no quarrying, processing or associated activities being permitted on Sundays or public holidays. Where market conditions or the nature of particular ancillary

processes (such as concrete batch manufacture) would require greater flexibility of working hours, it is imperative that such flexibility be discussed with the planning authority at the pre-application stage, and addressed in the planning application.

- (c) **Control of noise:** Noise-sensitive uses in the vicinity of a quarry, such as dwellings, schools, hospitals, places of worship or areas of high amenity, require that the amount of noise be minimised. The sensitivity to noise is usually greater at night-time (20.00 to 08.00) than during the day, by about 10 dB(A). Many quarries are situated in areas of low background noise and it is appropriate to consider this when setting noise limits. In general, it can be expected that complaints will result where the noise from quarrying and associated activities are between 5 to 10 dB above the background noise levels. In areas of higher background noise levels, the EPA recommends that ideally, if the total noise level from all sources is taken into account, the noise level at sensitive locations should not exceed a Laeq (1 hour) of 55 dB(A) by daytime and a Laeq (15 minutes) of 45 dB(A) by nighttime. Audible tonal or impulsive components in noise emissions (e.g. the reversing siren on a lorry, required for safety reasons) can be particularly intrusive, and such components should be minimised at any noise-sensitive location.

It may be necessary to raise the noise limits to allow temporary but exceptionally noisy phases in the extraction process, or for short-term construction activity which cannot meet the limits set for routine operations, e.g. the construction of baffle mounds, which bring long-term environmental benefits.

The developer may be required to carry out noise surveys to measure noise levels at the site boundary near sensitive locations, as agreed in advance with the planning authority. Surveys should be carried out in accordance with the EPA's "Environmental Noise Survey – Guidance Document" (2003). Noise monitoring should be carried out on a quarterly basis (or as otherwise agreed), and commenced prior to the commencement of development. The results should be reported to the planning authority within 3 weeks (or as agreed). 95% of all noise measured shall comply with the

specified limit values. No individual noise measurement should exceed the limit values by more than 2 dB(A).

- (d) **Control of blasting:** Nearby residents (e.g. within 500 metres) need to be given advance notice when blasting operations are due to take place, which should only be carried out between 09.00 and 18.00 hours, Monday to Friday (except in emergencies or for health and safety reasons beyond the control of the developer). Similarly, such residents should be given the “all clear” signal by means of sirens or other agreed measures when blasting has been completed.

The EPA recommends that to avoid any risk of damage to properties in the vicinity of a quarry, the vibration levels from blasting should not exceed a peak particle velocity of 12 millimetres per second as measured at a receiving location when blasting occurs at a frequency of once per week or less. In the rare event of more frequent blasting, the peak particle velocity should not exceed 8 millimetres per second. The nature of the underlying rock can influence the way blast vibrations are transmitted through the ground to locations outside the site, so it is important that such information (including predicted vibration levels in adjacent noise-sensitive receptors) be submitted with the planning application where relevant.

Blast noise is characterised by containing a large proportion of its energy within a frequency that is below the normal hearing range and is therefore termed “air overpressure.” The EPA recommends that blasting should not give rise to air overpressure values at the nearest occupied dwelling in excess of $125 \text{ dB(Lin)}_{\text{max, peak}}$ with a 95% confidence limit.

The developer should carry out blast monitoring (groundborne vibration and air overpressure) for each blast. The monitoring locations should be as agreed within the planning authority and shall be established prior to the commencement of blasting. The results should be reported to the planning authority on a regular agreed basis. Groundborne vibration levels measured at the nearest occupied dwelling should not exceed the specified limit values. 95% of all air overpressure levels measured at the nearest occupied dwelling shall conform to the specified

limit value. No individual air overpressure value should exceed the limit value by more than 5 dB(Lin).

- (e) **Control of dust:** There are currently no Irish statutory standards or EPA guidelines relating specifically to dust deposition thresholds for inert mineral/aggregate dust. (See, however, the Air Quality Standards Regulations 2002 for measurement standards). There are a number of methods to measure dust deposition (such as the Frisbee method) but only the German TA Luft Air Quality Standard relates a specific method (i.e. Bergerhoff) of measuring dust deposition with dust nuisance. On this basis it is recommended that the following TA Luft dust deposition limit value be adopted at site boundaries near quarry developments:

Total dust deposition (soluble and insoluble): 350 milligram per square metre per day (when averaged over a 30-day period).

Best practice dust control measures should be proposed by the applicant (see **Chapter 3, paragraph 3** above). These and any other special additional matters deemed necessary by the planning authority should be specifically referred to in a planning condition.

- (f) **Control of water pollution:** Some or all of the following suggested conditions may be appropriate, depending on the nature and scale of the proposed development:
- Only clean uncontaminated water should be discharged under licence to surface waters, including clean dewatering from the quarry floor (see **Chapter 3, paragraph 4** above re the provision and design of settlement ponds). (If there is to be an effluent discharge licence under the Water Pollution Acts, such controls need not be repeated in the planning permission);
 - The developer should construct and commission the proposed settlement lagoons/silt ponds prior to the commencement of extraction operations;
 - All run-off from roads and paved areas should pass through adequately sized and located oil/petrol interceptors before discharge to surface water drainage.

Refuelling should only take place on such paved areas with interceptors;

- All overground oil or other chemical storage tanks should be adequately bunded to protect against oil spillage. Bunding should be impermeable and capable of retaining a volume equal to 110% of the capacity of the largest tank. Drainage from bunded areas should be collected and disposed of in a safe manner. The integrity and impermeability of such areas should be assessed by the developer annually (or as may otherwise be agreed) and a report submitted to the planning authority. All waste oil should be removed from the site and disposed of to the satisfaction of the planning authority;
- The developer should maintain on site an adequate supply of containment booms and suitable absorbent materials to contain and absorb any spillage;
- No surface water should be allowed to flow from the site onto the public road during the construction or operational phases of the development.

(g) Existing groundwater wells and water supply:

- In the event of quarrying activities having an adverse impact on the existing private wells in the vicinity, the developer should undertake appropriate remedial measures as agreed with the planning authority, at his own expense. In the event of any disruption of water supplies, the developer should cease any operations causing such disruption until the water supply has been restored or replaced;
- Where applicable, the developer should carry out monitoring of surface water and groundwater in the vicinity of the site. The monitoring locations, sampling procedure and suite of water quality parameters to be tested for should be as agreed in advance with, and reported to, the planning authority. Monitoring should be on a quarterly basis (or as otherwise agreed) and commenced within three months of the commencement of development.

- (h) **Environmental monitoring:** As stated in **Chapter 3**, effective monitoring is necessary to provide evidence that environmental conditions are being complied with. An agreed monitoring programme, funded by the developer, can provide reassurance for both the planning authority and any concerned third parties that these conditions are being observed in the day-to-day operation of the quarry, and that in the event of a breach, appropriate remedial action will be taken. Such a programme would be particularly relevant where the quarry is permitted to operate over a period of 5 or more years. The programme should specify:
- environmental standards to be monitored (such as those for noise, dust, blasting, traffic, etc.);
 - monitoring procedures and the frequency of monitoring;
 - the making available of monitoring results on a regular basis to the planning authority.

The environmental monitoring can be carried out either by the developer, by agreed independent specialists, or by the planning authority at the developer's expense.

- (i) **Landscaping and restoration of the site:**
- Prior to the commencement of development, the developer should confirm in writing with the planning authority, the details of, and the programme for, implementation of :
 - I. The operational landscaping scheme; and
 - II. The restoration scheme as set out in the planning application/EIS.
 - It should be standard practice that a quarry developer should be required to lodge with the planning authority an index-linked bond of an insurance company or other security to secure the satisfactory completion and aftercare of the site in accordance with the terms of the planning permission. (In many cases, phased restoration will be both possible and desirable, in which case the costs of the final phase may be as little as 20

- 30% of total restoration costs). This lodgement should be coupled with an agreement empowering the planning authority to apply such security (or part thereof) to the satisfactory completion of the rehabilitation and aftercare works. The form and amount of the security should be agreed between the developer and the planning authority, having regard to a realistic estimate of the cost of such works (including any likely significant increase in such costs over time), and should be reviewed if permission is subsequently granted for increased operations on the site.

- (j) **Special contributions:** In certain cases, the additional traffic - particularly in terms of heavy goods vehicles - generated by the proposed quarry may result in additional expenditure by the planning authority on the surrounding road network, including additional maintenance costs. A contribution may be required towards the cost of local authority inspections and monitoring. Section 48(2)(c) of the Planning and Development Act, 2000 enables a planning authority, in addition to the terms of its development contribution scheme, to require the payment of a special contribution in respect of a particular development where specific exceptional costs not covered by the scheme are incurred by any local authority in respect of public infrastructure and facilities which benefit the proposed development. In such a case, section 48(12) requires that the planning condition shall specify the particular works carried out, or proposed to be carried out, by any local authority to which the special contribution relates. (Section 48(12) also contains provisions regarding possible refunds of part or all of the contribution in certain circumstances). Where no other appeal is involved, An Bord Pleanála shall determine an appeal against a special contribution only in relation to that issue. Where only such an appeal is lodged, the planning authority shall make the grant of permission after the expiry of the appeal period, provided that the developer lodges security with the authority for payment of the full amount of the contribution, pending the decision of the Board.
- (k) **Waste management:** All waste materials should be stored, collected, recycled and/or disposed of in accordance with the requirements of the planning authority. A record of the

volumes of waste oils, used batteries, used tyres, disused plant and machinery, and scrap metal arising within the site should be kept by the developer. These records should be kept on-site and made available to the planning authority on request.

- (1) **Extraction limits:** Planning authorities should avoid attaching conditions which limit the quantity of material which may be extracted annually, except where this is strictly needed to regulate environmental impacts, e.g. where traffic movements, amount of blasting, etc. have been linked in the EIS to anticipated annual extraction rates, and the acceptability of the development has been decided on that basis.

Other issues which might be considered as planning conditions (where appropriate) include accidents and emergencies and notification of incidents.

4.8 Integrated Pollution Control Licences

An Integrated Pollution Control (IPC) Licence from the EPA is required for “Class 1.3 mineral activities” which are defined in the First Schedule of the EPA Act as “The extraction and processing (including size reduction, grading and heating) of minerals within the meaning of the Minerals Development Acts 1940 to 1979, and storage of related mineral waste.” Where the development requires an IPC licence, planning authorities are reminded that section 256 of the 2000 Act prohibits the attachment of conditions which are for the purposes of:

- (a) controlling emissions from the operation of the activity, including the prevention, limitation, elimination, abatement or reduction of those emissions, or
- (b) controlling emissions related to or following the cessation of the operation of the quarry.

4.9 Life of planning permissions

Where the expected life of the proposed quarry exceeds 5 years it will normally be appropriate to grant permission for a longer period (such as 10 - 20 years), particularly where major capital investment is required at the outset. In deciding the length of the planning permission, planning authorities should have regard to

the expected life of the reserves within the site. The purpose of setting a finite period is not to anticipate that extraction should not continue after the expiry of that period, but rather to enable the planning authority, in conjunction with the developer and environmental authorities, to review changes in environmental standards and technology over a decade or more since the original permission was granted. In considering whether a further permission should be granted, the planning authority should have regard (inter alia) to the following factors:

- (a) The extent of the remaining mineral resources and
- (b) The extent of existing capital investment in infrastructure, equipment, etc.

Part B

Chapter 5: Implementation of section 261 of the Act

5.1 Introduction

As stated in **Chapter 1**, Section 261 of the Planning and Development Act, 2000 introduces a once-off system of registration for all quarries, except those for which planning permission was granted in the 5 years before section 261 became operative. The new registration system will give a 'snapshot' of the current use of land for quarrying. In addition, it allows planning authorities to impose new or modified conditions on the operation of quarries where necessary and appropriate, or to require certain quarries to apply for planning permission and submit an Environmental Impact Statement. Compensation may be payable in certain limited circumstances to a quarry operator where types of new or more restrictive conditions on the operation of the quarry are imposed.

5.2 Steps in the Process

The basic steps in the process are:

1. Registration;
2. Public consultation;
3. Consultation with quarry operators;
4. Decision on whether to restate or change the conditions of operation of a quarry;
5. Requiring an existing quarry to apply for planning permission accompanied by an EIS where applicable;
6. Appeal, where appropriate;
7. Claim for compensation where appropriate.

The process is set out diagrammatically at **Appendix C**.

5.3 Registration

The owners or operators of the following quarries must register details with their planning authority:

- (a) Quarries for which permission was granted more than 5 years before the section came into force, or
- (b) Quarries for which no planning permission was ever granted.

In order to register, the quarry owner or operator must provide the following information on their quarry to the local planning authority within one year of this section coming into force:

- the total area of the quarry; including the extracted area delineated on a site map (see sample registration form for scale, etc.);
- the material being extracted and processed. Where the quarry is not currently being used for extraction, that must be indicated;
- the date when the quarrying began, if that date is known. This is a key issue in the registration process and the owner/operator must provide any evidence available to them which indicates when the operations began, for example, records such as invoices for materials supplied to or from the operation. The planning authority could also refer to any previously supplied information by the owner/operator of the quarry which may indicate the age of a particular quarry;
- the hours of the day for which the quarry is in operation, including plant operating hours and loading/off-site haulage hours. If exceptional customer requirements have required the quarry to open at unusual times in the previous 5 years, these periods should also be indicated;
- the traffic generated by the operation of the quarry including the type and frequency of vehicles entering and leaving the quarry;
- the levels of noise and dust generated by the operations in the quarry;

- any changes that have occurred between the date of commencement of the section and the date that the information was provided.

A sample registration form is provided at **Appendix D**. It is recommended that planning authorities use this form, in order to ensure that section 261 is implemented in a consistent manner throughout the country.

The planning authority can also seek further information on a quarry operation where this is considered necessary. This information must be provided in the time specified by the authority.

Particulars of any information relating to the operation of a quarry should be entered by the planning authority in the planning register maintained by it under Section 7 of the Act.

Failure to register a quarry, or to respond to a request for further information, will have serious consequences for the future of that quarry. From then on, the quarry will be considered an unauthorised development and, as such, may be subject to enforcement proceedings by the planning authority (See **paragraph 10** below). For that reason, the owner or operator of an existing quarry whose use has been temporarily suspended but is normally in operation, or which is normally used on a seasonal or occasional basis, should register that quarry if they intend to recommence operations at that site. Where this is the case, evidence of that use or the length of time that the operations have been suspended should also be submitted. However, quarries which have been abandoned for a considerable amount of time (e.g. several years) will not be able to recommence operations without seeking planning permission. It is not possible to register an abandoned quarry in order to recommence its use.

5.4 Public consultation

Planning authorities are required to consult with the local community regarding the operation of any quarry that has registered with them. To begin the process of consultation, the planning authority should publish a notice in one or more newspapers in the area within 6 months of the quarry or quarries registering with the authority. This notice must detail the quarry or quarries that has or have registered and indicate:

- whether or not permission has been granted in respect of each quarry;
- the place and times at which the register may be inspected;
- that submissions or observations on the operations of the quarry may be made by members of the public within 4 weeks of the notice being published.

In addition, the planning authority must indicate in the notice whether they are intending to impose or modify conditions on the operation of a quarry, or require the making of a planning application and preparation of an Environmental Impact Statement. Before publishing the notice, the planning authority should ensure that sufficient consideration is given to the issues dealt with in **Chapter 4** to determine whether new or revised conditions, or planning permission and an EIS are necessary and appropriate. This may include inspecting the quarry and considering its location with respect to European and other designated sites. It should be noted that strict time limits apply in respect of requiring applications for planning permission, or restating or changing conditions (see **paragraphs 6** and **7** below).

Any proposals of the planning authority in the newspaper notice, e.g. to impose new conditions etc, may change after the public consultation period, particularly having regard to any submissions/observations received.

A newspaper notice may relate to more than one quarry, and therefore it may be appropriate to publish a notice in respect of all quarries registered in the previous six months, or a shorter period if the planning authority feels that is appropriate.

Any person or body may make a submission or observation about the operation of a registered quarry. Comments should be made in writing to the planning authority up to 4 weeks after the publication of the newspaper notice in relation to a particular quarry. While the planning authority is not obliged to inform anyone who has commented on the operation of a quarry of its decision in relation to that quarry, it should consider doing so. Notification could be individually, through an appropriate local or representative group or by any other appropriate means (newspaper notice, etc).

5.5 Consultation with quarry owners/operators

Having considered any matters raised as part of the consultation, the planning authority may decide to impose, restate, modify or add to conditions on the operation of a particular quarry or, in appropriate cases, require the making of a planning application and the preparation of an Environmental Impact Statement in respect of that quarry.

If this is the case, the planning authority should send a written notice of their decision to the owner or operator, setting out the reasons why the authority proposes to take this action. This notice must also invite the owner or operator to make any submission or observation in relation to this proposal, within a minimum time period of 6 weeks. It is recommended that the process of consulting the public and the owners or operators of registered quarries should take no longer than six months in total.

In addition to the formal consultation process, planning authorities may find it useful to consult with the owner or operator of a quarry at an earlier stage in the process, particularly where the authority is considering changing the conditions of operation of a quarry or requiring an application for planning permission. This may allow for the period of consideration to be shortened and the course of action proposed by the authority to be clear at an early stage after registration. Early confirmation of the status of the quarry will be of benefit to the owner or operator of a quarry.

The strict time limits which apply in relation to requiring an application for permission or restating or changing conditions should also be noted (see **paragraphs 5.6** and **5.7** below). Where the planning authority requires planning permission and an EIS, the owner or operator should be notified of this within **one year** of registration of the quarry in question, while notification of a decision to change conditions of operation should be within **two years**.

5.6 Conditions on the operations of the quarry/planning permission

The planning authority has 2 years from the registration of a quarry in which to impose new or modified conditions on the operation of that quarry. The planning authority can impose conditions on

the operation of a pre-1 October 1964 quarry, or can restate, modify or add to conditions on the operation of a quarry which has received planning permission more than 5 years before section 261 has commenced.

In considering the types of conditions which should be imposed on a quarry, the planning authority should have regard to the matters stated in **Chapter 3**. Conditions relating to the control of emissions from the quarry or the control of emissions related to or following the end of the life of the quarry cannot be imposed where an Integrated Pollution Control Licence has been granted by the EPA for that quarry.

Where a quarry had received planning permission prior to its registration, any restated, modified or added conditions on its operation are a change to the conditions of that planning permission. An effect of the change is that, regardless of when planning permission was granted, the permission and its modified conditions will have effect as if they were granted under the 2000 Act. This has a number of consequences, most importantly that a failure to comply with the permission, or its conditions, may result an enforcement action under the Act.

The decision of the planning authority to impose, restate, add to or modify conditions of operation of a quarry can be appealed to An Bord Pleanála by the quarry owner or operator (see **paragraph 5.8**) and can be the subject of a claim for compensation (see **paragraph 5.9**).

5.7 Requiring an existing quarry to apply for planning permission, with Environmental Impact Assessment

If it appears likely to the planning authority that the continued operation of a pre- 1 October 1964 quarry:

- (a) which has an extracted area greater than 5 hectares, or
- (b) which is on land which is a European or other designated site,

would be likely to have significant effects on the environment, it must notify the owner or operator that the quarry is required to

undergo environmental impact assessment and apply for planning permission. This notification must be made within **one year** of the date of the registration of the quarry. Within 6 months of the receipt of this notification, or within another time period agreed by the planning authority, the owner or occupier of the quarry should apply for this planning permission and submit an EIS to the planning authority.

As noted in paragraph (b) above, quarries which are located on a European or other designated site may be required to apply for planning permission. A European site is defined in the Act to include proposed and adopted habitats of Community importance, special areas of conservation or protected areas under the Birds Directive. The national types of designation of land are natural heritage areas, or areas which have been proposed as such, and nature reserves and refuges.

In deciding whether a quarry of this type would be likely to have significant effects on the environment, the planning authority must have regard to the same criteria as are used to determine if a development, which is below the relevant threshold for mandatory environmental impact assessment, should in any case submit an EIS as part of the applications. (See **Chapter 4, paragraph 4**).

Where, on foot of a notice to do so, a quarry owner or operator makes a planning application, accompanied by an Environmental Impact Statement, that application will be dealt with as if it were a standard application under Part III of the Act. All relevant provisions of the Act and the 2001 Planning Regulations apply, including the right of appeal to An Bord Pleanála. One difference is that the planning authority, and the Board if the planning authority's decision is appealed, must have regard to the fact that the land is currently being used for quarrying.

If the owner or operator receives a notice to apply for permission and fails to do so within 6 months (or another agreed period) the quarry is deemed to be unauthorised development thereafter (see **paragraph 5.10** below). In the interim however, and until any application for permission, or subsequent appeal, is determined, the quarry continues to retain its authorised status and can continue to operate on that basis.

5.8 Appeals

A quarry owner or operator who provided the registration information, or further information if requested, may appeal a decision of the planning authority to restate or change conditions of a planning permission to An Bord Pleanála.

Such an appeal must be made within 4 weeks, beginning on the date of the receipt of the notification by the owner or operator of the change to the conditions. Following an independent review, the Board may decide to confirm authority's decision, with or without modification, or alternatively to annul the decision. It should be noted that no other persons, even if they commented on the quarry in response to the public notice, can appeal the decision of the planning authority to impose or modify the conditions of a planning permission.

It is also possible to appeal a decision by a planning authority to grant a planning permission (see **paragraph 5.7** above). An appeal of this kind is subject to the usual provisions concerning appeal to the Board, including that any person who has made a submission or observation on the planning application in accordance with the legislation may appeal the authority's decision to the Board.

5.9 Compensation

Section 261 introduces new controls on quarries, many of which have been operating lawfully for a long time. Where those controls introduce more restrictive operating conditions, the owner or operator of the quarry may be entitled to compensation.

Compensation may be payable by a planning authority in the following circumstances:

- where a pre-1964 quarry is required to seek planning permission and is subsequently refused such a permission;
- where a pre-1964 quarry is required to seek planning permission and is granted such a permission, but subject to conditions on its operation;
- where a quarry has planning permission prior to registration, but where the conditions of its permission become more

restrictive due to the authority adding to or modifying the existing conditions.

However, if the conditions imposed are of certain types no compensation is payable. The types are:

- conditions regulating the development or use of adjoining land which is under the control of the owner/occupier (section 34(4)(a));
- conditions requiring the carrying out of necessary works (section 34(4)(b));
- conditions requiring measures to be taken to reduce or prevent the emission or intrusion of noise or vibrations (section 34(4)(c));
- conditions preventing, limiting or controlling emissions from the quarry;
- conditions requiring the reinstatement of the land on which the quarry is situated.

The claim for compensation is dealt with as if it were a claim under section 197 of the Act for compensation where a person is required to discontinue an existing use of land, or comply with new conditions in continuing the use. The other relevant rules relating to claims under section 197 also apply. For example, a claim for compensation of this type must be made within 6 months of the decision by the authority, unless the High Court extends the relevant period, and so on.

5.10 Consequences of non-compliance with the section

All quarries, except those for which planning permission was granted in the 5 years before section 261 became operative, must provide the necessary information within one year of the commencement of this section and any further information in the time period specified by the planning authority. Any quarry, which is obliged to comply with section 261 and fails to do so within the appropriate time period, will become unauthorised development, regardless of its previous status.

In addition, if a quarry which is required to submit a planning application and EIS fails to do so within the period specified or agreed with the authority (see paragraph 5.7 above), it will also be unauthorised development even if it was previously authorised.

It should be noted that the registration of quarries under section 261 does not confer planning consent for a quarry that is an unauthorised development. Therefore, an unauthorised development remains unauthorised even after registering with the planning authority. In the event of a planning authority becoming aware of an operating quarry which is unauthorised development, through the registration process or otherwise, or which has failed to comply with a request for further information or a requirement to apply for planning permission, the planning authority must consider taking enforcement action in accordance with Part VIII of the Planning and Development Act, 2000. It is not necessary to defer the enforcement proceedings until after the registration process is completed. The enforcement action could lead to an end to quarrying activities at the site as well as penalties for persons who carried out the unauthorised development.

5.11 Planning control of quarrying operations after registration

The registration procedure better enables the planning authority to control any future development of quarries by making them more familiar with existing quarrying operations in their area. Once a quarry has registered, the planning authority will have a snapshot of the operational area of the quarry at a particular point in time, and any significant expansion of operations beyond that registered will require planning permission.

The kinds of material changes involved would include the following:

- Major changes in the production methods; e.g. the introduction of blasting;
- Major changes in the range of quarry products; e.g. large pre-cast structures as opposed to ordinary concrete blocks;
- An increase in the scale of operations; e.g. where the rate of extraction has intensified and the levels of noise, dust, traffic etc has increased as a result. In general, where the rate of

extraction has increased by more than 25% of the original rate, the planning authority should consider whether planning permission is necessary. The planning authority should also have regard to whether the development will require Environmental Impact Assessment, as set out in Schedule 5 of the Planning and Development Regulations, 2001;

- An increase in the area worked; e.g. where the area excavated has increased beyond the original site area of the quarry by acquiring additional land or where land has been extended beyond the workable area shown on the planning application. In a previous judgement ¹ it was found that the extent to which one was entitled to quarry depends on what was reasonably anticipated on the date of grant of permission.

¹ See Waterford County Council v John A. Wood Ltd, [1999] 1 I.R. 556; [1999] 1 I.L.R.M. 217

Appendix A: Glossary of technical terms

Some of these terms have been used in the Guidelines, whereas others may occur in documentation submitted with planning applications.

Aggregates: A granular product obtained by processing natural materials. It may be sand or gravel produced by natural disintegration of rock, or it may be manufactured by passing rock through a series of crushers.

Aggregate reserve: That part of an overall aggregate resource considered producible at a profit at the time of classification.

Air overpressure: A pressure wave in the atmosphere produced by the detonation of explosives, consisting of both audible (noise) and inaudible (concussion) energy

Aquifer: A permeable geological formation which is capable of storing and yielding water.

Asphalt: A natural or artificial mixture in which bitumen is associated with a substantial proportion of mineral matter.

Backfilling: Placement of material into worked-out lands in order to recreate a usable land surface.

Bench: A working level in a quarry.

Berm: See under "Bund"

Blast (face) profiling: Profiling of quarry faces to ensure proper alignment of blast holes and avoidance of problems associated with inadequate or excessive overburden.

Bund: An extended mound of soils, overburden or structure erected as a barrier to sight, sound or water. (In environmental parlance, the terms "berm" and "bund" are often used synonymously).

Clay: (i) A specific group of layered silicate materials. (ii) Particles of size less than 2 mm forming rock.

Decibels (dB): Measurement of sound. When measuring environmental noise, a weighting network is used which filters the frequency of sound, and is expressed as dB(A). Normal hearing covers the frequency range from about 20 Hz to 20,000 Hz but sensitivity is greatest between about 500 Hz and 5,000 Hz. The “A-weighting” in noise meters mimics this characteristic of human hearing. The decibel scale is logarithmic. This means that if two machines emit exactly the same noise level (say 80 dB(A)), the total noise level is 83 dB(A) and not 160 dB(A). It also means that a 10 dB(A) increase in sound level represents a doubling of loudness. A change of 3 dB(A) is the minimum perceptible under normal conditions. A noise level of zero represents absolute silence, whereas a level of 140 dB(A) would cause ear pain.

(See also **LAeq**).

dB(Lin)_{max peak} : Instantaneous Maximum Peak sound pressure measured in decibels on a sound level meter, without the use of a frequency weighting system. Used to measure air overpressure.

Dimension stone: A natural stone product that has been cut or fashioned to a particular size and shape.

Dust: Any solid matter emanating from mineral/aggregate working, or from ancillary plant and vehicles, which is borne by the air. Dust particles can vary in size from 1 to 75 micrometers (microns). Dust is produced at minerals/aggregates extraction sites mainly through the action of crushing and abrasive forces on minerals/aggregates.

Flyrock: Fragments of rock propelled into the air by a blasting explosion to any area beyond the designated danger zone.

Fragmentation: A term associated with hard rock quarrying to describe the degree of mechanical breakdown produced by blasting.

Gravel: In the British Standard particle size classification, the term denotes granular material in the size range 2 mm to 60 mm.

Hertz (Hz): Unit of frequency of a sound.

Impulsive noise: A noise which is of short duration (typically less than one second), the sound pressure level of which is significantly higher than the background.

Lagoon (silt): A contained volume of water providing time for the sedimentation of silt (and perhaps clays) to permit re-use or discharge of clean water.

LAeq (T): Equivalent continuous sound level – the sound level of a steady sound having the same energy as a fluctuating sound over a specified measuring period (T), e.g. see recommended night-time limit of LAeq (15 minutes) 45 dB(A) in **Chapter 4, paragraph 6**, above.

Minerals: The definition given in the Minerals Development Acts 1940 to 1979 is:

“Minerals means all substances (other than the agriculture surface of the ground and other than turf or peat) in, on, or under land, whether obtainable by underground or by surface working, and includes all mines whether they are or are not already opened or in work, and also includes the cubic space occupied or formerly occupied by minerals and for greater certainty but without prejudice to the generality of the foregoing, the said word includes all scheduled minerals.”

Overburden: Rock, soil which is of no commercial value, overlying the valuable stone. (Overburden has the potential to adversely affect the quality of aggregate produced unless specific measures are provided for its removal prior to the extraction of rock).

Peak Particle Velocity (ppv): A measure of ground vibration magnitude which is the maximum rate of change of ground displacement with time, usually measured in millimetres/second.

Safety bench: The width of the horizontal rock surface at a given level. Benches are also usually left between the final vertical faces to catch falling rocks.

Sand: In the British Standard particle size classification, sand is a granular material in the size range 0.06 mm to 2 mm

Screen: A particle-sizing device like a sieve, consisting of a surface which is perforated with holes of a certain size and shape. Screening is a sizing operation using a screen.

Slurry: A suspension of mineral particles in water.

Tonality: The degree to which a noise contains audible pure tones. Broadband noise is generally less annoying than noise with identifiable tones.

Wet suppression: Control of dust levels during processing operations by the use of water sprays into crushers, onto screens or conveyor belt transfer points

Appendix B: Further reading

Dúchas and the Irish Concrete Federation, “**Code of Practice on the Protection of the Archaeological Heritage**” (2002) (Policies on protection of the archaeological heritage are set out in the “**Framework and principles for the Protection of the Archaeological Heritage**” (1999)).

Environmental Protection Agency Guidance

- “**Advice Notes on Current Practice (in the preparation of an EIS)**”;
- “**Guidelines on the Information to be contained in Environmental Impact Statements**”(2002);
- “**Landfill Manual: Landfill Restoration and Aftercare**” (1999) (While the Manual relates to landfill in particular, the restoration and aftercare principles are of more general interest);
- “**Environmental Management in the Extractive Industry: Non-Scheduled Minerals**” (from Project Report no. MS-2000-M1 by John Barnett and Associates Ltd. For the EPA, in preparation, 2004).

European Parliament and Council “**Recommendation (4 April 2001) providing for minimum criteria for environmental inspections in the Member States**” published in the Official Journal of the European Communities, 27 April 2001.

Irish Concrete Federation, “**Environmental Code for the Aggregate and Concrete Products Industries**” (1996).

Institute of Geologists of Ireland, “**Geology in Environmental Impact Statements – a Guide**” (2002).

U.K. Department of the Environment, Transport and the Regions, “**Mineral Planning Guidance Note 11: Controlling and Mitigating the Environmental Effects of Minerals Extraction in England – Consultation Paper**” (2000).

Landscape Institute/Institute of Environmental Management and Auditing (UK), “**Guidelines for Landscape and Visual Impact Assessment**” (Spon Press, 2002).

Relevant websites:

Department of the Environment,
Heritage and Local Government: www.environ.ie

Department of Communications,
Marine and Natural Resources
(Exploration and Mining Division): www.emd.ie

Environmental Protection Agency: www.epa.ie

ENFO: (of particular interest in
relation to environmental
legislation) www.enfo.ie

Geological Survey of Ireland: www.gsi.ie

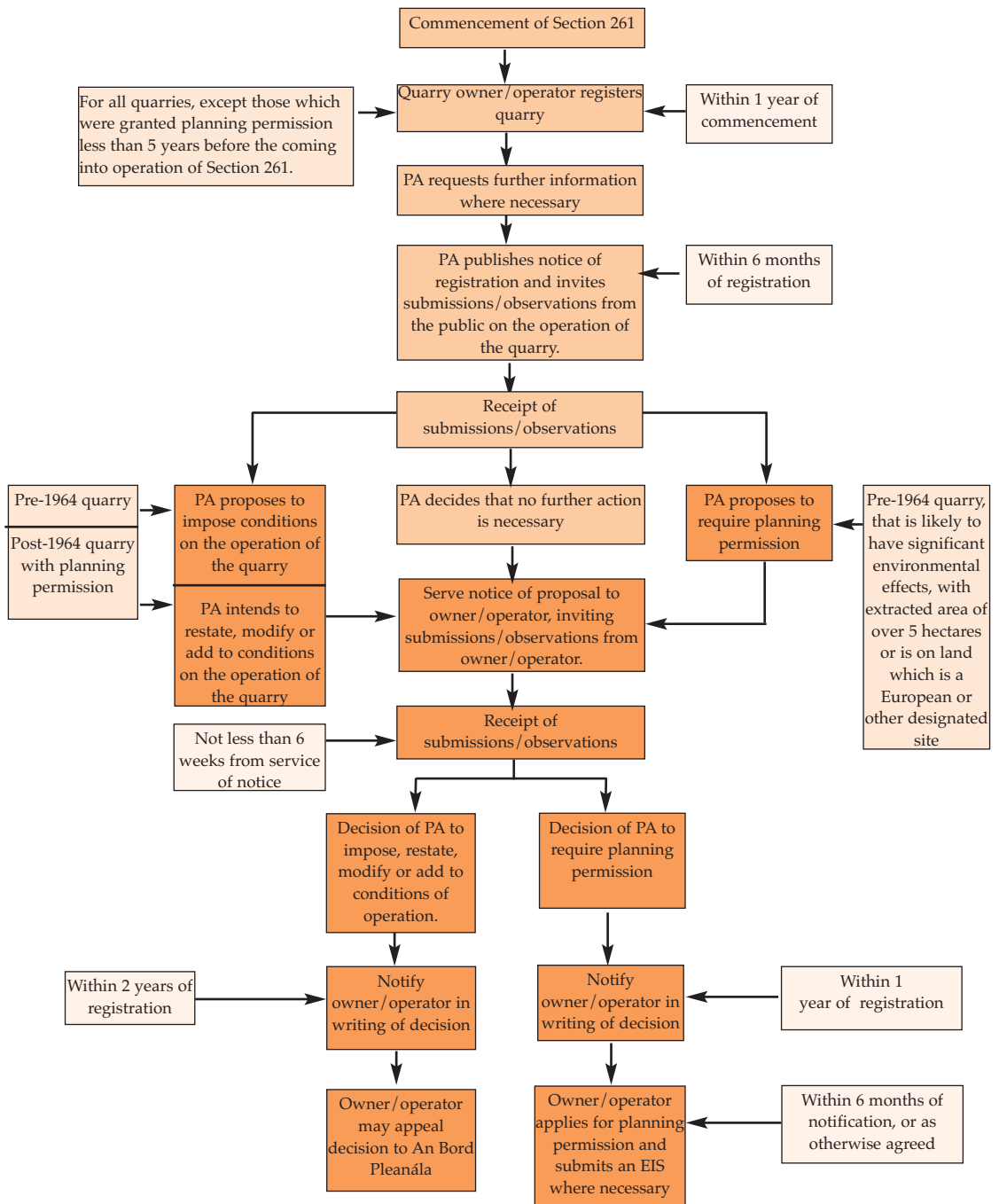
Irish Concrete Federation: www.irishconcrete.ie

Irish Mining and Quarrying Society: www.imqs.ie

Institute of Geologists of Ireland: www.igi.ie

Appendix C

REGISTRATION PROCESS



Appendix D

APPLICATION TO LOCAL AUTHORITY FOR REGISTRATION OF A QUARRY UNDER SECTION 261 OF THE PLANNING AND DEVELOPMENT ACT, 2000

NAME OF PLANNING AUTHORITY

• Name of owner/operator of quarry(s):	
• Address:	
• Telephone number:	
• E-mail address (if any):	
• <i>If owner/operator is a company -</i>	
Name of Company:	
Name of Company Directors:	
Registered Address of Company:	
Companies Office Registration Number:	
<ul style="list-style-type: none"> • Location, townland or postal address of quarry concerned: <p>Please indicate an Ordnance Survey Map Ref No, and the Grid Reference where available. A site location map to a scale of not less than 1:2500 should be also be attached. The map should indicate (a) the site boundary (outlined in red) and (b) the current workable area (outlined in blue).</p>	
<ul style="list-style-type: none"> • Was planning permission under Part IV of the Local Government (Planning and Development) Act, 1963 granted? If YES, please quote the reference number of the permission and include a copy 	Yes <input type="checkbox"/> No <input type="checkbox"/>
Plan Ref. No:	

<ul style="list-style-type: none"> • Did the quarry commence operation before 1 October 1964? If YES, please supply any available documentary evidence. 	Yes <input type="checkbox"/> No <input type="checkbox"/>
<ul style="list-style-type: none"> • Total site area of quarry (hectares): 	
<ul style="list-style-type: none"> • Extraction area of quarry (hectares): 	
<ul style="list-style-type: none"> • Types of material being extracted: 	
<ul style="list-style-type: none"> • Date which quarrying commenced on the land? (If operation of the quarry was only periodic, please give details of dates of operation, if known -See Chapter 5). 	
<ul style="list-style-type: none"> • Quarry operating hours: <ul style="list-style-type: none"> (i) Plant operating hours: <ul style="list-style-type: none"> (a) Weekdays (b) Saturdays (ii) Loading/Off-site Haulage Hours (if different from above): <ul style="list-style-type: none"> (a) Weekdays (b) Saturdays (iii) Hours (outside normal opening hours) required to service exceptional customer requirements: 	
<ul style="list-style-type: none"> • The traffic generated by the operation of the quarry? (Type and frequency of vehicle entering and leaving the quarry). 	
<ul style="list-style-type: none"> • Please give details of emissions (noise, dust, water, etc.) from the quarry where measurements are available. 	
<p>Please note that any changes to the particulars noted above must be brought to the attention of the planning authority as soon as possible.</p>	
Name (BLOCK CAPITALS):	
Signature:	
Position with firm/company ² :	
Date:	

² Where registration is on behalf of a company, the form must be signed by a company director/secretary