

CONTENTS

INTRODUCTION	4-1
ENVIRONMENTAL IMPACT ASSESSMENT	4-1
Statutory Background	4-1
The Environmental Statement.....	4-2
Scoping	4-4
Assessment Procedures.....	4-6
STATEMENT OF SIGNIFICANCE	4-9
LIMITATIONS AND TECHNICAL DIFFICULTIES.....	4-10

INTRODUCTION

This chapter of the ES introduces the requirements of environmental impact assessment (EIA); outlines the process of ‘scoping’ the EIA; identifies those matters scoped out of detailed assessment and sets out the general approach to assessment.

- 4.1 The EIA has been undertaken in accordance with the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations), which came into force on 16 May 2017. Cognisance has also been given to the guidance set out in the online National Planning Practice Guidance and The Institute of Environmental Management and Assessment’s “*Guidelines for Environmental Impact Assessment*”.

ENVIRONMENTAL IMPACT ASSESSMENT

- 4.2 EIA is an important procedure for ensuring that the likely effects of a new development on the environment are fully understood and taken into account before the development is allowed to proceed. The term EIA describes a procedure that must be followed for certain types of development before they are given “*development consent*”, which in the UK includes the grant of a planning permission. The procedure is a means of drawing together, in a systematic way, an assessment of a project’s likely significant environmental effects.

Statutory Background

European Context

- 4.3 The Environmental Impact Assessment Directive¹ (the “*EIA Directive*”) requires that, before granting ‘*development consent*’ for projects, including development proposals, authorities should carry out a procedure known as environmental impact assessment (or “*EIA*”) of any project which is likely to have significant effects on the environment. The aim of the EIA Directive is to ensure that the authority giving consent for a project makes its decision in the knowledge of any likely significant effects on the environment. The first EIA Directive (85/337/EEC) came into force in 1988 and was subsequently amended in 1999 (Directive 97/11/EC) extending the range of development to which the Directive applies and made some small changes to EIA procedures. The Directive was further amended in 2003 by Directive 2003/35/EC and in 2009 by Directive 2009/31/EC. The initial Directive of 1985 and its amendments were codified by Directive 2011/92/EU² of 13 December 2011. As a result of a review process³, on 26 October 2012, the Commission adopted a proposal for a revised

¹ Directive 2014/52/EU of The European Parliament And Of The Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment, <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32014L0052>

² Directive 2011/92/EU of The European Parliament And Of The Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:026:0001:0021:EN:PDF>

³ Review of the Environmental Impact Assessment (EIA) Directive. <http://ec.europa.eu/environment/eia/review.htm>

Directive¹. The newly amended EIA Directive (2014/52/EU) came into force on 15 May 2014 to simplify the rules for assessing the potential effects of projects on the environment. This Directive has now been adopted by the governments in the UK, with new regulations coming into force in England on 16th May 2017.

National Context

- 4.4 The EIA Directive has been implemented by regulations for development proposals under the Town and Country Planning Act 1990 (the 1990 Act). The current regulations are the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (the 'EIA Regulations') and the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. In relation to the planning application at Carlton Main it is the former that are of relevance. Separate regulations also are in force for the devolved governments in Scotland, Wales and Northern Ireland.
- 4.5 The EIA Regulations specify certain types of development for which EIA is mandatory (Schedule 1 projects), and categories of development where an EIA may be required (Schedule 2 projects) dependent upon the likely significance of the impacts. In connection with the proposals for the quarry workings at Carlton Main, the proposed extension is well below the 25 ha threshold specified in Schedule 1 (Paragraph 19 of Schedule 1) and so falls to be considered against the criteria in Schedule 2.
- 4.6 In accordance with Regulation 6 of the EIA Regulations a screening request was made by SLR to the LPA on 5 August 2019; this request was for the LPA to adopt a 'Screening Opinion' as to whether a proposed extension to the quarry workings would fall within the scope of Schedule 2 of the EIA Regulations. The LPA provided their opinion on 16 September 2019 indicating that in their opinion the development fell within the scope of Schedule 2 to the EIA Regulations and as such, an EIA would be needed.

The Environmental Statement

- 4.7 An Environmental Statement (ES) is a report of an EIA that is required to be submitted with a planning application for major and other developments that are likely to have significant impacts on the environment. It evaluates the likely environmental impacts of the development, together with an assessment of how the severity of the impacts could be reduced.
- 4.8 The EIA Regulations⁴ indicate that an ES must include the information reasonably required for reaching a reasoned conclusion on the significant effects of the development on the environment, taking into account current knowledge and methods of assessment. Regulation 18(3) of the EIA Regulations indicates that an ES should include at least:
- (a) a description of the proposed development comprising information on the site, design, size and other relevant features of the development;
 - (b) a description of the likely significant effects of the proposed development on the environment;

⁴ Regulation 18(4)(b)

- (c) a description of any features of the proposed development, or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment;
- (d) a description of the reasonable alternatives studied by the developer, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment;
- (e) a non-technical summary of the information referred to in sub-paragraphs (a) to (d); and
- (f) any additional information specified in Schedule 4 relevant to the specific characteristics of the particular development or type of development and to the environmental features likely to be significantly affected.

4.9 For ease of reference, the box below sets out the requirements of Schedule 4.

Table 4-1
Document Overview

Requirement	Location in the ES
1) A description of the development, including in particular: (a) a description of the location of the development; (b) a description of the physical characteristics of the whole development; (c) a description of the main characteristics of the operational phase of the development (d) an estimate of expected residues and emissions and quantities and types of waste produced during the construction and operation phases. 2) A description of the reasonable alternatives; 3) A description of the current baseline conditions and an outline of the likely evolution thereof without implementation of the development 4) A description of the factors specified in regulation 4(2) likely to be significantly affected by the development: population, human health, biodiversity (for example fauna and flora), land (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydromorphological changes, quantity and quality), air, climate (for example greenhouse gas emissions, impacts relevant to adaptation), material assets, cultural heritage, including architectural and archaeological aspects, and landscape. 5) A description of the likely significant effects of the development on the environment resulting from, inter alia: (a) the construction and existence of the development, including, where relevant, demolition works; (b) the use of natural resources, in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources;	1) Chapter 2 for the description of location and site setting and Chapter 3 for a description of the development. 2) Chapter 3 sets out the alternatives considered. 3) Chapters 6 to 9 describe the baseline in the context of the main environmental subjects to be assessed. Chapter 9 sets out the topics scoped out of the EIA. 4) Chapters 6 to 9 describe the factors specified in reg. 4(2) in the context of the main environmental subjects to be assessed (and agreed through the scoping process). 5) Chapters 6 to 9 describe likely significant effects in the context of the main environmental subjects to be assessed. Chapter 9 briefly sets out a consideration of accidents and natural disasters, explaining why the development is not susceptible to them and Chapter 10 sets out the cumulative effects. 6) Each of the chapters addressing main environmental subjects to be assessed (Chapters 6 to 9) describe the forecasting methods used. 7) Each of the chapters addressing main environmental subjects to be assessed (Chapters 6 to 9) describe the mitigation measures to be adopted. 8) Risks of major accidents and/or disasters has been considered in Chapter 10.

Requirement	Location in the ES
(c) the emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances, and the disposal and recovery of waste; (d) the risks to human health, cultural heritage or the environment (for example due to accidents or disasters); (e) the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources; (f) the impact of the project on climate and the vulnerability of the project to climate change; (g) the technologies and the substances used. The description of the likely significant effects should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development. 6) A description of the forecasting methods or evidence used including details of difficulties. 7) A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements. 8) A description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters which are relevant to the project concerned. 9) A non-technical summary of the information provided under paragraphs 1 to 8. 10) A reference list detailing the sources used	9) A separate Non Technical Summary is provided (Volume 2C). 10) Details of sources used are clearly identified in the text of each chapter and included as footnotes to each chapter of the ES.

Scoping

- 4.10 The EIA Regulations require consideration of the likely significant environmental effects of a development proposal. However, the EIA Regulations and associated guidance need to be capable of being applied to all forms of development, and not purely mineral developments. Each development proposal is unique, and the potential impacts associated with one site may not be the same as another. Consequently, it is not always necessary to address all the areas identified in the EIA Regulations in the same amount of detail. It is therefore important to clearly identify or 'scope' the main environmental issues, as this allows for more detailed and targeted assessment to be carried out.
- 4.11 The applicant has carried out a formal scoping exercise, commencing with an internal scoping appraisal undertaken by SLR to establish the likely significant environmental effects. This was set

out in the 'Scoping Report' submitted to the LPA on 16th October 2019, which described the proposed scope of the EIA, and was accompanied by a request for a 'Scoping Opinion'.

- 4.12 Regulation 15 of the EIA Regulations, places a duty on the planning authority, if requested, to give their opinion (known as a 'Scoping Opinion') in writing to the applicant on the information to be provided in the ES. The LPA issued their Scoping Opinion on 3rd January 2020, attached as **Appendix 4/1** to this chapter. Despite the passage of time since the Scoping Opinion was issued it is considered that the content remains valid and appropriate for guiding the content of the EIA as there have not been any significant changes to the local environment or guidance that would alter the conclusions of the scoping opinion.
- 4.13 In accordance with Regulation 15 of the EIA Regulations, the MPA consulted key statutory consultees and made their responses and advice available to the applicant to assist with the preparation of the EIA.
- 4.14 The EIA and attendant ES have, therefore, been prepared having regard to the LPA's Scoping Opinion (as required under Regulation 15 of the EIA Regulations), the scoping appraisal, and the advice received during these, and subsequent, consultation discussions.
- 4.15 Finally, the assessments of environmental effects have been undertaken using guidance and professional standards relevant to the individual topic area, and are separately referenced in the appropriate chapter.
- 4.16 Table 4-2 below provides a summary of the scoping opinion and where within the ES the information is provided.

Table 4-2
Summary of Scoping Opinion

Environmental Topic	Requirement	Where addressed
Air Quality	Reviewed the scoping request and comfortable with the conclusions that a detailed air quality assessment is not required. Air Quality has therefore been scoped out of the EIA.	Chapter 10
Ecology	No attempt seems to have been made to gain data on non-statutory Ancient Woodlands or Local Sites – i.e. Local Wildlife Sites and RIGS/ Local Geology Sites – this should be done. Regarding restoration s.3.5 I would request that woodland plantation is not recreated and that this proposal is replaced with additional wildflower grassland creation: it is the grassland which currently offers the best habitat on the nature reserve/ country park – particularly with respect to protected ground-nesting birds such as skylark. The wetland feature is welcomed as it adds value to the nature reserve. I would request that the wetland feature is designed so as to allow translocation of white-clawed crayfish into it (by myself, with an NE licence to do so) to act as an 'ark site' as this Barnsley Biodiversity Action Plan species is	Chapter 7

Environmental Topic	Requirement	Where addressed
	under threat of extinction in the borough and minerals restoration schemes offer the best chance to conserve the species locally. Regarding table 4-1 Environmental Topics – with respect to ecology, I am not satisfied that the report has gained and interpreted Local Site information so this needs to be added. I disagree that no targeted reports other than a phase 1 habitat survey are needed: I think that ground-nesting bird, amphibian and reptile surveys are appropriate. Regarding the format of the ES in s5.1 – I think a chapter on geology should be included.	
Noise	The proposed methodology to inform the noise assessment within the noise and vibration chapter are considered acceptable by the relevant officer. Noise has therefore been scoped out of the EIA.	Chapter 10
Landscape and Visual	No Comments made. Methodology set out in scoping request is considered appropriate.	Chapter 6
Water	Reviewed the scoping request and comfortable with the scope of the assessment as described.	Chapter 8
Geology	Given the sensitivity of the geological environment and the presence of the SSSI the geological chapter needs to be robust and should include: - a detailed geology map - clear reference to the target clay horizon they are planning to excavate. - an impact assessment on the marine band, not only in the existing section (where we are assured there will be no effect) but also in the new section (where the depth of excavation is not clarified) if the target horizon lies close to or below the marine band.	Chapter 9

4.17 The scoping opinion also states that:

- As the site is a geological SSSI it is the Council's view, and that of the Sheffield Area Geology Trust that a detailed assessment of this and the impact of the proposed on it will be required. This can be either as a standalone chapter or included with the hydrology assessment.
- It is accepted that Air Quality, Noise, Transport, Cultural Heritage, Climate Change, Accidents, Natural Disasters and Hazards and Population and Health can be scoped out. However, these issues should be covered in the wider supporting information provided with the planning application.

Assessment Procedures

4.18 The EIA has identified a range of potential environmental issues, many of which vary in terms of the stage in which they occur within the life cycle of the development and the length of time over

which they are significant. As an extension to an existing mineral working, works typically associated with the construction phase (establishment of site infrastructure for example) have already been undertaken. The proposed development therefore relates to the 'Operational Phase' and 'Decommissioning (or Restoration) Phase'. Notwithstanding this, some operations during the Operational Phase are akin to those that occur during a Construction Phase; for example soil stripping and bund formation.

Phase	Duration
Operational Phase	This would cover the development of the existing quarry along with the Southern Extension for the period of around 22 years (noting that the proposed extension would increase the life of the quarry by around 6 years). It would also include the period of infilling with inert wastes within the quarry to create the final landform; as the quarry development scheme progresses, infilling operations would be able to commence within worked out areas of the workings. It is anticipated that the final phase of infilling would continue for around 5 to 10 years following the cessation of clay extraction.
Restoration Phase	This would cover a period of approximately 2 years following the completion of clay extraction and infilling operations and include the final spreading of soils and seeding/planning works. Following this, a five year period of aftercare management would ensue.

- 4.19 Identified impacts can have differing durations, and the EIA has generally classified impacts into three timeframes; short term, medium term and long-term.

Timeframe	Description
Short Term	Typically being from a few months up to three years in duration.
Medium Term	This would cover a period of around three to ten years.
Long Term	This would cover a period in excess of ten years.

- 4.20 Notwithstanding this, assessments that have been carried out as part of the EIA may use different definitions for these timescales. Where this is the case, they are clearly outlined in the respective chapter.

- 4.21 Identified effects can be temporary or permanent; direct or indirect; and positive or negative.

Temporary/Permanent Effects

- 4.22 In relation to the different time frames above, some of the effects would be temporary, for example, the clay extraction and infilling operations, whilst others would be permanent, such as the impact of new landforms on the landscape.

Direct/Indirect Effects

- 4.23 The proposed development could potentially have direct effects upon nearby properties and settlements, together with the environment as a whole in relation to emissions of noise and dust. Indirect impacts can also occur such as those relating to the transportation of inert materials for restoration works.

Positive/Negative Effects

- 4.24 The proposed development could generate both negative effects and positive benefits, either by virtue of the proposals themselves or as a result of the mitigation measures proposed.

Cumulative Impacts

- 4.25 Cumulative impacts can be described⁵ as those caused by the sum of the project's impacts on the environmental components, and/or the project's impact when combined with those of other past, present or future projects. Cumulative impacts can be;
- additive, aggregative or “nibbling”, namely the simple sum of all the impacts;
 - synergistic, where impacts interact to produce an impact greater than the sum of the individual impact; and
 - neutralising or antagonistic impact, where the impacts counteract each other, reducing the overall impact.
- 4.26 Such cumulative impacts have been addressed in each of the respective chapters within the ES. However, there is also the potential for unrelated impacts, which in themselves are not significant, to collectively generate an overall impact that is unacceptable. For example, the sum of minor impacts on noise, odour and traffic could potentially produce an overall significant impact.
- 4.27 The various impacts are assessed individually within their respective chapters and then collectively in Chapter 9 of this ES.

Depth of Assessment

- 4.28 As noted earlier, a formal ‘scoping’ exercise was conducted by SLR in October 2019. Despite the passage of time it is considered that nothing has changed materially that would affect the conclusions of the scoping opinion issued by the LPA. The purpose of this exercise was to provide the LPA with sufficient information to enable them, along with other consultees, to set out the scope of the various assessments that make up an EIA.
- 4.29 A fundamental aspect of any EIA is to determine the baseline environmental conditions prevailing at the application site and the sensitivity of these receptors to change. These form the benchmark

⁵ Methods of Environmental Impact Assessment. P. Morris and R. Therivel. UCL Press, 2000

against which predicted changes resulting from the development can be assessed to determine the magnitude of any impact. As noted earlier in this volume, planning permission already exists within the existing quarry workings (adjacent to the Southern Extension) for clay extraction and the infilling of the workings with non-hazardous waste materials, together with other ancillary operations (such as stockpiling of clay and transfer to the brickworks). Such operations would continue in the absence of the current proposal (to which this ES relates) with the extant permission having an end date of 5th August 2043.

- 4.30 The baseline conditions (including those established under the existing planning permission) have been determined by a number of different methods including desktop research, analytical modelling and the acquisition of data from third party sources.
- 4.31 Methodologies for predicting the nature and magnitude of any potential environmental impacts are entirely dependent on the subject area. Quantitative methods of assessments are employed to predict values which can be compared against published thresholds and indicative data contained within Government guidance and standards. However, it is not always possible to ascribe quantitative values to environmental assessments and, in these instances, qualitative assessments are used. This type of assessment is largely subjective and therefore relies on previous experience and professional judgement to arrive at a sound conclusion.
- 4.32 Finally, if significant environmental impacts are predicted in the EIA process, then the ES provides measures which would be employed to eliminate or ameliorate the impact to acceptable levels. Mitigation measures have been formulated based on a hierarchy of avoid, reduce, compensate, remediate and enhance. As such mitigation measures can be in the form of changes to operational practice, or changes/additions to the design of the site. Accordingly, the EIA process forms part of the iterative design process.

STATEMENT OF SIGNIFICANCE

- 4.33 Assessing the significance of effects relies, at least in part, on value judgements including placing weight or value on the environmental receptors likely to experience the change. The significance of effects at the assessment stage relates to the sensitivity of receptors to accommodate change.
- 4.34 The significance of an effect is derived from an analysis of:
- the sensitivity of the receiving environment or receptor to change, including its capacity to accommodate the kinds of changes the proposed development may bring about;
 - the amount and type of change, often referred to as the impact magnitude which includes the timing, scale, size and duration of the impact;
 - the likelihood of the impact occurring, which may range from certainty to a remote possibility;
 - comparison of the impacts on the environment that would result from the proposed development relative to any changes that would occur without the proposed development, often referred to as the “do nothing” or “do minimum” comparison; and
 - expressing the significance of the effects of the project, usually in relative terms, based on the principle that the more sensitive the receptor, the more likely the predicted changes,

and the greater the magnitude of those changes (when compared with the do nothing scenario), the greater will be the significance of the effect.

- 4.35 As the significance of effects will differ depending on the context and the receptors affected by the proposed development, there is no general definition of what constitutes significance. In EIA, the term significance reflects both its literal meaning of 'importance' and its statistical meaning where there is an element of quantification. This combination of judgemental/subjective and quantifiable/objective tests has become the standard approach to understanding and applying the test of 'significance'.
- 4.36 Significant effects are defined in each of the topic specific chapters. Any effects associated with the proposed development are assumed to be negative except where they are stated to be positive.

LIMITATIONS AND TECHNICAL DIFFICULTIES

- 4.37 In general, no technical difficulties were encountered when undertaking the EIA. In considering the potential impacts of the proposals on nearby properties, it should be noted that observations and measurements were generally made from public areas (such as rights of way and highways). It is considered that this has not prevented the accurate assessment of potential environmental impacts or the identification of appropriate mitigation measures.
- 4.38 Despite the Covid-19 pandemic, other than a delay to the project no limitations or technical difficulties were encountered. Survey work was able to progress adopting the Government's advice on social distancing. The nature of the assessments undertaken in the EIA are unlikely to be affected by the 'stay at home' requirements imposed by the Government since March 2020.